Full wwPDB NMR Structure Validation Report (i)

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PDB ID	:	9UV6 / pdb_00009uv6
BMRB ID	:	36759
Title	:	Encounter complex structure of E2N and Ubiquitin
Authors	:	Gong, Z.; Liu, M.L.; Zhang, X.; He, L.C.; Zhao, Q.; Zhang, L.H.; Zhang, B.R.
Deposited on	:	2025-05-09

This is a Full wwPDB NMR Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/NMRValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (i)) were used in the production of this report:

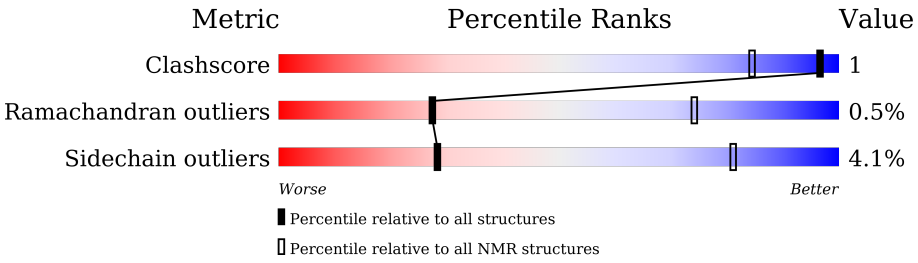
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	1.8.5 (274361), CSD as541be (2020)
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
BMRB Restraints Analysis	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.44

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
SOLUTION NMR

The overall completeness of chemical shifts assignment is 11%.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	NMR archive (#Entries)
Clashscore	210492	14027
Ramachandran outliers	207382	12486
Sidechain outliers	206894	12463

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and a grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Mol	Chain	Length	Quality of chain
1	A	150	51% 45% ...
2	B	76	43% 47% . 8%

2 Ensemble composition and analysis (i)

This entry contains 3 models. Model 2 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

The following residues are included in the computation of the global validation metrics.

Well-defined (core) protein residues			
Well-defined core	**Residue range (total)**	**Backbone RMSD (Å)**	**Medoid model**
1	A:5-A:150 (146)	1.22	2
2	B:1-B:70 (70)	0.89	3

Ill-defined regions of proteins are excluded from the global statistics.

Ligands and non-protein polymers are included in the analysis.

The models can be grouped into 1 clusters. No single-model clusters were found.

Cluster number	Models
1	1, 2, 3

3 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 3652 atoms, of which 1844 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Ubiquitin-conjugating enzyme E2 N.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	148	2370	756	1194	202	213	5	0

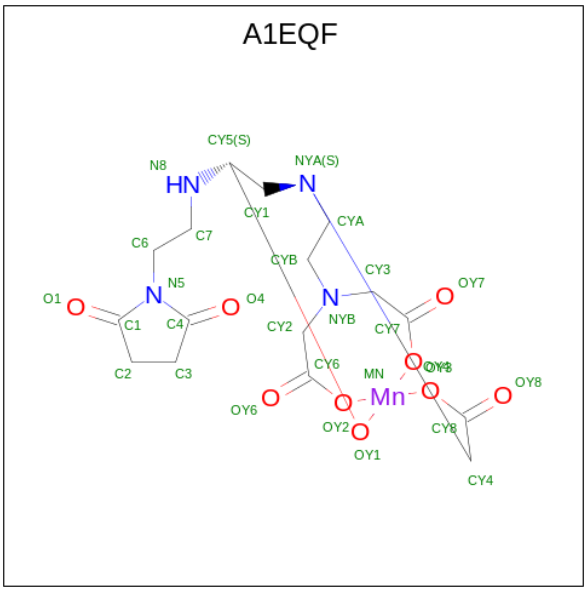
There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	123	CYS	ASN	engineered mutation	UNP P61088

- Molecule 2 is a protein called Ubiquitin.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
2	B	76	1232	378	630	105	118	1	0

- Molecule 3 is (5 {S},16 {S})-16-[2-[2,5-bis(oxidanylidene)pyrrolidin-1-yl]ethylamino]-2,11,12,17-tetraoxa-5,8-diaza-1$l^{4}-manganatricyclo[6.3.3.3^{1,5}]heptadecane-3,10,13-trione (CCD ID: A1EQF) (formula: $C_{16}H_{22}MnN_4O_9$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					
			Total	C	H	Mn	N	O
3	A	1	50	16	20	1	4	9

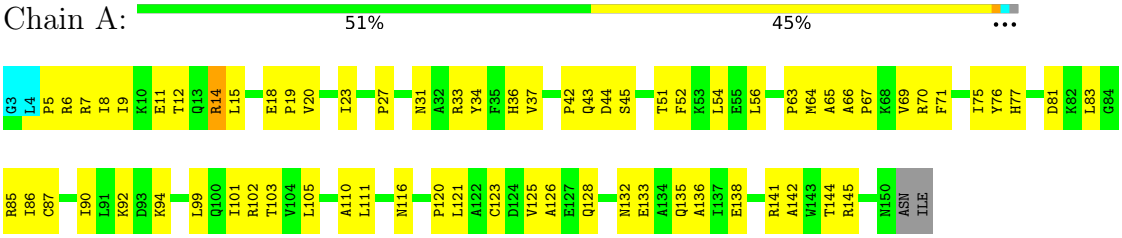
4 Residue-property plots (i)

4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

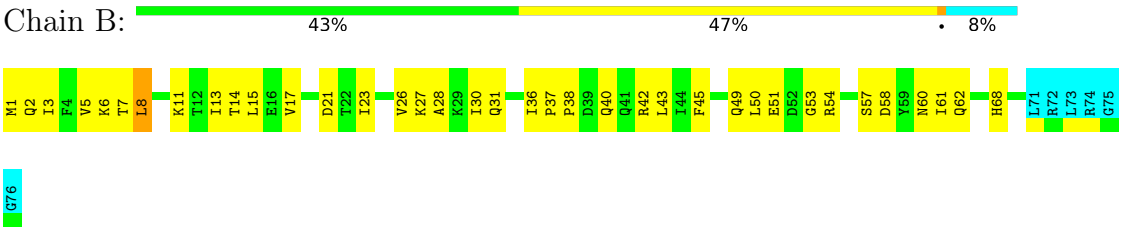
• Molecule 1: Ubiquitin-conjugating enzyme E2 N

Chain A:



• Molecule 2: Ubiquitin

Chain B:



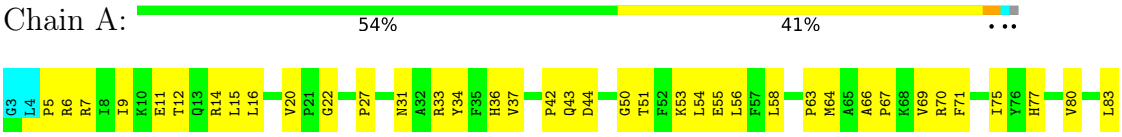
4.2 Scores per residue for each member of the ensemble

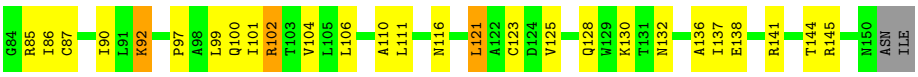
Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

• Molecule 1: Ubiquitin-conjugating enzyme E2 N

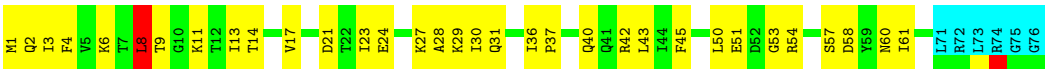
Chain A:





• Molecule 2: Ubiquitin

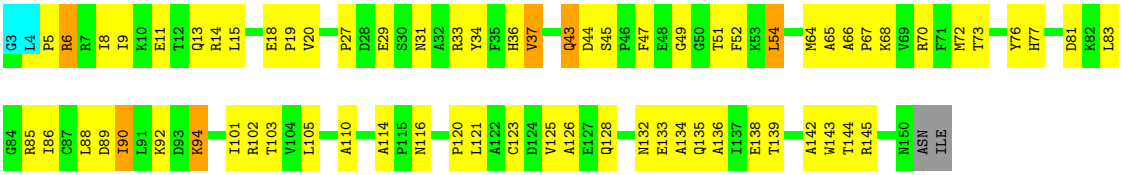
Chain B:



4.2.2 Score per residue for model 2 (medoid)

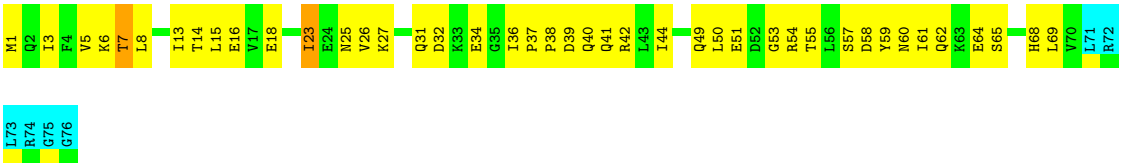
• Molecule 1: Ubiquitin-conjugating enzyme E2 N

Chain A:



• Molecule 2: Ubiquitin

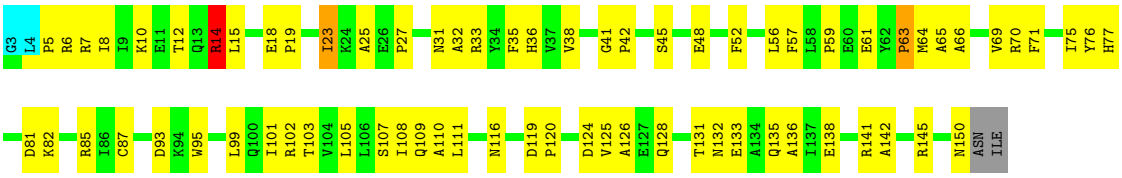
Chain B:



4.2.3 Score per residue for model 3

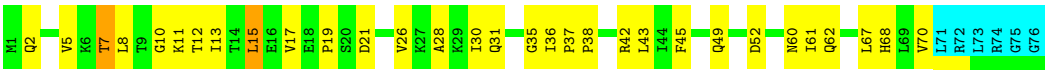
• Molecule 1: Ubiquitin-conjugating enzyme E2 N

Chain A:



• Molecule 2: Ubiquitin

Chain B:


M1
Q2
V5
K6
T7
L8
T9
G10
K11
T12
I13
T14
L15
E16
V17
E18
P19
S20
D21
V26
K27
A28
K29
I30
Q31
G35
I36
P37
P38
R42
L43
T44
F45
Q49
D52
M60
I61
Q62
L67
H68
L69
V70
L71
R72
L73
R74
G75
G76

5 Refinement protocol and experimental data overview

The models were refined using the following method: *simulated annealing.*

Of the 240 calculated structures, 3 were deposited, based on the following criterion: *structures with the lowest energy.*

The following table shows the software used for structure solution, optimisation and refinement.

Software name	Classification	Version
X-PLOR NIH	structure calculation	
Amber	refinement	

The following table shows chemical shift validation statistics as aggregates over all chemical shift files. Detailed validation can be found in section 7 of this report.

Chemical shift file(s)	working_cs.cif
Number of chemical shift lists	1
Total number of shifts	354
Number of shifts mapped to atoms	354
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	11%

6 Model quality (i)

6.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: A1EQF

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the (average) root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#Z>5	RMSZ	#Z>5
1	A	2.06±0.01	24±2/1194 (2.0± 0.2%)	2.40±0.04	75±3/1625 (4.6± 0.2%)
2	B	2.13±0.07	20±6/562 (3.5± 1.0%)	2.33±0.12	33±7/759 (4.3± 0.9%)
All	All	2.08	131/5268 (2.5%)	2.38	322/7152 (4.5%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	Chirality	Planarity
1	A	0.0±0.0	3.7±0.5
2	B	0.0±0.0	1.0±0.8
All	All	0	14

All unique bond outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
1	A	66	ALA	CA-C	11.12	1.64	1.53	3	2
2	B	43	LEU	N-CA	9.72	1.58	1.45	1	1
2	B	6	LYS	N-CA	8.86	1.59	1.46	1	2
1	A	102	ARG	CA-C	8.70	1.64	1.52	2	1
2	B	42	ARG	CA-C	-8.39	1.42	1.52	1	1
1	A	138	GLU	N-CA	8.14	1.56	1.46	1	1
2	B	4	PHE	CA-C	7.69	1.62	1.52	1	1
1	A	36	HIS	CE1-NE2	7.62	1.40	1.32	1	1
1	A	144	THR	CA-CB	7.35	1.65	1.53	2	1
2	B	52	ASP	CA-C	7.26	1.62	1.52	3	1
1	A	14	ARG	CZ-NH2	-7.21	1.24	1.33	2	1
2	B	51	GLU	N-CA	7.20	1.55	1.46	1	2

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
1	A	29	GLU	N-CA	7.11	1.54	1.46	2	1
1	A	94	LYS	CA-C	7.06	1.62	1.52	2	1
1	A	77	HIS	ND1-CE1	7.01	1.39	1.32	1	1
2	B	17	VAL	CA-C	6.96	1.60	1.52	3	1
2	B	34	GLU	CA-C	6.93	1.61	1.52	2	1
2	B	53	GLY	N-CA	6.92	1.54	1.45	2	1
2	B	15	LEU	CA-C	6.91	1.61	1.52	2	1
2	B	61	ILE	CA-CB	6.89	1.61	1.54	1	2
1	A	83	LEU	CA-CB	6.86	1.64	1.53	1	1
2	B	13	ILE	CA-C	6.75	1.60	1.52	3	2
1	A	116	ASN	C-N	6.70	1.38	1.33	1	1
2	B	37	PRO	C-O	-6.69	1.19	1.25	2	1
2	B	36	ILE	CA-C	-6.65	1.47	1.53	1	1
2	B	51	GLU	CA-C	6.64	1.61	1.52	1	1
1	A	123	CYS	N-CA	6.56	1.54	1.46	1	2
1	A	101	ILE	CA-C	6.54	1.61	1.52	2	1
1	A	70	ARG	CZ-NH2	-6.54	1.25	1.33	3	2
1	A	31	ASN	N-CA	6.52	1.54	1.46	3	1
1	A	11	GLU	CA-C	6.50	1.61	1.52	1	1
1	A	77	HIS	CG-ND1	6.49	1.45	1.38	2	1
1	A	23	ILE	CA-C	6.47	1.60	1.52	3	1
2	B	37	PRO	CA-C	6.39	1.58	1.52	3	2
1	A	93	ASP	N-CA	6.35	1.53	1.45	3	1
1	A	145	ARG	CZ-NH2	-6.35	1.25	1.33	1	2
1	A	90	ILE	N-CA	6.31	1.53	1.46	2	1
2	B	65	SER	CA-C	-6.30	1.44	1.53	2	1
1	A	33	ARG	CZ-NH2	-6.29	1.25	1.33	2	1
1	A	102	ARG	CZ-NH1	-6.26	1.24	1.32	3	1
1	A	15	LEU	CA-C	6.25	1.61	1.52	3	1
2	B	49	GLN	CA-C	6.22	1.61	1.52	2	1
1	A	41	GLY	CA-C	6.22	1.60	1.51	3	1
1	A	89	ASP	CA-C	6.21	1.60	1.52	2	1
2	B	68	HIS	CB-CG	6.19	1.58	1.50	3	1
1	A	100	GLN	N-CA	6.16	1.54	1.45	1	1
2	B	13	ILE	CA-CB	6.10	1.62	1.54	2	1
2	B	3	ILE	CA-CB	6.08	1.62	1.54	1	1
2	B	37	PRO	C-N	6.04	1.41	1.34	1	1
2	B	57	SER	CA-C	5.96	1.60	1.52	2	1
2	B	54	ARG	CZ-NH1	-5.96	1.24	1.32	1	1
2	B	50	LEU	N-CA	5.95	1.54	1.46	1	1
1	A	5	PRO	N-CD	-5.94	1.39	1.47	2	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
2	B	24	GLU	N-CA	5.94	1.53	1.46	1	1
1	A	37	VAL	N-CA	5.83	1.53	1.46	2	1
2	B	31	GLN	CA-C	5.83	1.60	1.52	1	2
2	B	3	ILE	CA-C	5.82	1.58	1.52	1	1
1	A	120	PRO	CA-C	5.81	1.59	1.52	2	2
2	B	30	ILE	CA-C	5.77	1.60	1.52	1	2
1	A	20	VAL	CA-C	5.76	1.58	1.52	1	1
2	B	32	ASP	N-CA	-5.73	1.39	1.46	2	1
1	A	77	HIS	CA-C	5.72	1.60	1.52	1	2
2	B	17	VAL	C-O	5.72	1.30	1.24	1	1
1	A	7	ARG	CZ-NH2	-5.71	1.26	1.33	3	1
2	B	23	ILE	N-CA	5.70	1.53	1.46	2	2
2	B	59	TYR	N-CA	5.70	1.53	1.46	2	1
1	A	15	LEU	N-CA	5.68	1.53	1.46	1	1
1	A	109	GLN	N-CA	-5.67	1.38	1.46	3	1
1	A	145	ARG	CA-C	5.67	1.60	1.52	1	1
1	A	8	ILE	CA-CB	5.64	1.61	1.54	3	1
2	B	67	LEU	N-CA	-5.60	1.39	1.46	3	1
1	A	82	LYS	N-CA	5.60	1.53	1.46	3	1
1	A	120	PRO	CA-CB	-5.58	1.46	1.53	2	1
2	B	2	GLN	N-CA	-5.57	1.39	1.46	1	1
1	A	14	ARG	CD-NE	5.57	1.54	1.46	3	1
1	A	42	PRO	N-CD	-5.56	1.40	1.47	1	1
1	A	65	ALA	CA-C	5.52	1.59	1.52	3	1
1	A	6	ARG	CZ-NH1	-5.50	1.25	1.32	2	1
1	A	57	PHE	N-CA	5.49	1.52	1.46	3	1
1	A	49	GLY	CA-C	5.48	1.59	1.51	2	1
1	A	25	ALA	C-O	5.46	1.30	1.23	3	1
1	A	101	ILE	CB-CG1	5.45	1.64	1.53	3	1
1	A	27	PRO	CA-C	5.45	1.58	1.52	3	1
1	A	76	TYR	CA-C	5.45	1.59	1.53	2	1
2	B	13	ILE	N-CA	5.43	1.53	1.46	2	1
2	B	70	VAL	C-O	5.41	1.29	1.23	3	1
2	B	64	GLU	CA-C	5.38	1.59	1.52	2	1
1	A	48	GLU	C-O	5.37	1.30	1.23	3	1
2	B	36	ILE	N-CA	5.34	1.53	1.46	2	1
2	B	27	LYS	N-CA	5.33	1.52	1.46	1	1
2	B	41	GLN	C-N	5.30	1.40	1.33	2	1
1	A	110	ALA	N-CA	5.29	1.52	1.46	1	1
1	A	125	VAL	CA-CB	-5.26	1.47	1.54	2	1
1	A	19	PRO	N-CD	-5.25	1.40	1.47	3	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
1	A	141	ARG	CZ-NH2	-5.24	1.26	1.33	1	1
1	A	53	LYS	CA-C	-5.23	1.46	1.52	1	1
1	A	141	ARG	C-O	-5.23	1.18	1.24	1	1
2	B	18	GLU	C-O	5.22	1.30	1.23	2	1
2	B	2	GLN	CA-CB	5.20	1.62	1.53	3	1
1	A	85	ARG	NE-CZ	-5.19	1.27	1.33	2	1
2	B	36	ILE	CA-CB	5.18	1.60	1.54	3	1
2	B	54	ARG	CA-C	5.18	1.60	1.53	1	1
1	A	19	PRO	CA-CB	-5.16	1.48	1.54	3	1
2	B	51	GLU	CA-CB	-5.15	1.44	1.53	1	1
2	B	13	ILE	C-O	5.15	1.29	1.23	1	1
2	B	60	ASN	CA-C	5.14	1.60	1.53	3	1
2	B	53	GLY	CA-C	5.11	1.59	1.51	1	1
1	A	87	CYS	CA-C	5.11	1.59	1.52	3	1
1	A	77	HIS	N-CA	5.09	1.53	1.46	2	1
1	A	9	ILE	CA-C	5.09	1.59	1.52	2	1
1	A	50	GLY	C-N	5.09	1.40	1.33	1	1
1	A	121	LEU	CA-C	5.06	1.58	1.52	1	1
1	A	31	ASN	CA-C	5.04	1.58	1.52	1	1
2	B	42	ARG	CZ-NH2	-5.03	1.26	1.33	2	1
1	A	99	LEU	CA-C	5.03	1.59	1.52	3	1
1	A	123	CYS	C-N	-5.01	1.27	1.34	2	1
2	B	54	ARG	N-CA	-5.00	1.39	1.45	1	1

All unique angle outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
2	B	37	PRO	O-C-N	-21.71	111.32	121.31	2	2
1	A	22	GLY	CA-C-O	10.36	130.67	119.07	1	1
1	A	145	ARG	NE-CZ-NH1	9.92	131.42	121.50	1	2
2	B	36	ILE	CA-C-N	9.80	130.48	120.38	3	3
2	B	36	ILE	C-N-CA	9.80	130.48	120.38	3	3
1	A	22	GLY	O-C-N	-9.75	111.00	122.60	1	1
2	B	21	ASP	CA-CB-CG	9.19	121.79	112.60	1	2
1	A	70	ARG	NE-CZ-NH2	-9.15	110.97	119.20	2	1
2	B	40	GLN	OE1-CD-NE2	-9.15	113.45	122.60	2	1
1	A	7	ARG	NE-CZ-NH2	-9.12	110.99	119.20	3	1
1	A	15	LEU	CA-C-O	-8.76	111.17	120.63	3	1
1	A	18	GLU	CA-C-N	8.73	129.27	119.93	2	1
1	A	18	GLU	C-N-CA	8.73	129.27	119.93	2	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	19	PRO	N-CA-CB	8.66	112.11	102.67	3	2
1	A	77	HIS	CA-CB-CG	8.64	122.44	113.80	3	2
1	A	135	GLN	CA-C-N	8.55	132.59	120.28	2	1
1	A	135	GLN	C-N-CA	8.55	132.59	120.28	2	1
1	A	139	THR	CA-C-N	8.50	133.23	120.31	2	1
1	A	139	THR	C-N-CA	8.50	133.23	120.31	2	1
1	A	42	PRO	O-C-N	-8.37	112.76	123.06	3	1
2	B	37	PRO	N-CA-CB	8.31	107.54	103.22	1	2
1	A	101	ILE	CA-C-N	8.29	131.60	120.65	1	2
1	A	101	ILE	C-N-CA	8.29	131.60	120.65	1	2
1	A	73	THR	CA-CB-CG2	8.24	124.50	110.50	2	1
1	A	105	LEU	N-CA-C	8.20	120.30	111.36	2	1
2	B	32	ASP	CA-C-O	-8.08	112.38	120.70	2	1
1	A	70	ARG	NH1-CZ-NH2	-8.08	108.80	119.30	3	1
1	A	31	ASN	OD1-CG-ND2	-7.97	114.63	122.60	2	1
1	A	36	HIS	CA-CB-CG	7.93	121.73	113.80	3	2
2	B	68	HIS	CB-CG-CD2	-7.87	120.96	131.20	2	1
2	B	28	ALA	N-CA-C	7.80	120.77	111.33	3	1
1	A	97	PRO	N-CA-CB	7.78	110.59	103.20	1	1
1	A	85	ARG	NH1-CZ-NH2	-7.76	109.22	119.30	3	3
1	A	56	LEU	CA-C-O	-7.65	111.86	120.66	1	1
1	A	143	TRP	CA-C-O	-7.64	112.45	120.55	2	1
1	A	128	GLN	OE1-CD-NE2	-7.61	114.99	122.60	2	2
2	B	55	THR	CA-C-O	-7.58	113.02	121.89	2	1
2	B	31	GLN	OE1-CD-NE2	-7.55	115.05	122.60	3	1
2	B	42	ARG	NE-CZ-NH1	7.51	129.01	121.50	3	1
1	A	37	VAL	O-C-N	-7.51	116.44	122.97	2	1
2	B	1	MET	CA-C-N	7.46	132.18	121.50	2	1
2	B	1	MET	C-N-CA	7.46	132.18	121.50	2	1
2	B	2	GLN	OE1-CD-NE2	-7.42	115.17	122.60	1	1
1	A	27	PRO	N-CA-CB	7.41	109.86	103.19	2	1
1	A	142	ALA	O-C-N	-7.40	114.39	122.09	3	1
1	A	150	ASN	CA-CB-CG	7.29	119.89	112.60	3	1
1	A	128	GLN	CA-C-O	-7.23	111.66	119.97	3	1
1	A	56	LEU	CA-C-N	7.16	133.09	122.99	1	1
1	A	56	LEU	C-N-CA	7.16	133.09	122.99	1	1
1	A	13	GLN	OE1-CD-NE2	-7.07	115.53	122.60	2	1
1	A	32	ALA	N-CA-C	7.05	120.98	112.38	3	1
2	B	42	ARG	NH1-CZ-NH2	-7.04	110.14	119.30	3	1
2	B	40	GLN	N-CA-CB	6.97	120.44	110.13	1	1
1	A	58	LEU	CA-C-O	-6.97	110.61	120.16	1	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	66	ALA	N-CA-C	6.93	119.65	110.08	1	1
1	A	71	PHE	CA-CB-CG	6.92	120.72	113.80	1	1
1	A	114	ALA	CA-C-N	6.89	126.93	119.90	2	1
1	A	114	ALA	C-N-CA	6.89	126.93	119.90	2	1
1	A	14	ARG	NE-CZ-NH1	6.88	128.38	121.50	1	1
1	A	116	ASN	CA-C-N	6.87	127.46	120.04	3	2
1	A	116	ASN	C-N-CA	6.87	127.46	120.04	3	2
1	A	58	LEU	CA-C-N	6.83	128.38	119.84	1	1
1	A	58	LEU	C-N-CA	6.83	128.38	119.84	1	1
2	B	62	GLN	CB-CG-CD	6.83	124.22	112.60	2	1
1	A	45	SER	N-CA-C	6.81	116.90	108.11	3	1
2	B	58	ASP	CA-CB-CG	6.81	119.41	112.60	2	2
1	A	132	ASN	OD1-CG-ND2	-6.80	115.80	122.60	3	2
1	A	136	ALA	CA-C-N	6.80	129.68	120.77	1	3
1	A	136	ALA	C-N-CA	6.80	129.68	120.77	1	3
2	B	49	GLN	OE1-CD-NE2	-6.65	115.95	122.60	3	1
1	A	110	ALA	CA-C-N	6.64	129.18	120.28	1	2
1	A	110	ALA	C-N-CA	6.64	129.18	120.28	1	2
1	A	9	ILE	CA-C-N	6.58	129.10	120.28	1	1
1	A	9	ILE	C-N-CA	6.58	129.10	120.28	1	1
1	A	47	PHE	CA-CB-CG	-6.57	107.23	113.80	2	1
1	A	75	ILE	N-CA-C	-6.52	99.71	108.06	1	1
2	B	45	PHE	CA-CB-CG	6.52	120.32	113.80	1	1
1	A	36	HIS	O-C-N	-6.50	115.62	123.29	1	1
2	B	62	GLN	OE1-CD-NE2	-6.50	116.11	122.60	3	1
2	B	61	ILE	CA-CB-CG2	6.48	121.52	110.50	2	1
2	B	70	VAL	CA-CB-CG1	6.46	121.39	110.40	3	1
2	B	29	LYS	CA-C-O	-6.43	113.60	120.42	1	1
2	B	26	VAL	N-CA-C	6.42	116.91	110.23	2	2
1	A	135	GLN	OE1-CD-NE2	-6.38	116.22	122.60	3	1
2	B	60	ASN	OD1-CG-ND2	-6.37	116.23	122.60	1	1
1	A	126	ALA	CA-C-O	-6.33	113.84	120.55	3	1
1	A	54	LEU	O-C-N	-6.32	114.28	122.94	2	1
1	A	5	PRO	CA-C-N	6.30	129.23	120.29	3	2
1	A	5	PRO	C-N-CA	6.30	129.23	120.29	3	2
2	B	37	PRO	CA-C-N	6.29	126.77	119.47	2	1
2	B	37	PRO	C-N-CA	6.29	126.77	119.47	2	1
2	B	11	LYS	CA-C-O	6.29	127.85	120.43	1	1
1	A	103	THR	CA-C-O	-6.27	112.39	119.79	2	1
1	A	6	ARG	CA-C-O	-6.27	113.78	120.42	3	1
1	A	92	LYS	CA-C-N	6.25	131.34	122.72	1	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	92	LYS	C-N-CA	6.25	131.34	122.72	1	1
1	A	125	VAL	N-CA-C	-6.23	104.20	111.00	3	1
1	A	14	ARG	N-CA-C	6.23	118.15	111.36	3	1
1	A	128	GLN	CA-C-N	6.19	128.49	120.44	2	1
1	A	128	GLN	C-N-CA	6.19	128.49	120.44	2	1
1	A	85	ARG	NE-CZ-NH1	6.18	127.68	121.50	2	3
2	B	43	LEU	CA-C-O	6.17	128.13	121.16	3	1
2	B	21	ASP	CB-CA-C	6.17	119.96	109.72	1	1
1	A	90	ILE	CA-CB-CG2	6.17	120.99	110.50	2	1
2	B	60	ASN	CA-C-O	6.17	129.33	120.51	2	1
2	B	35	GLY	CA-C-N	6.17	133.54	122.13	3	1
2	B	35	GLY	C-N-CA	6.17	133.54	122.13	3	1
2	B	57	SER	CA-C-N	6.15	129.14	120.28	1	1
2	B	57	SER	C-N-CA	6.15	129.14	120.28	1	1
1	A	137	ILE	O-C-N	-6.15	115.32	121.96	1	1
1	A	69	VAL	CA-CB-CG2	6.14	120.84	110.40	3	1
1	A	70	ARG	NE-CZ-NH1	6.13	127.63	121.50	3	1
1	A	41	GLY	O-C-N	6.11	127.88	121.77	3	1
1	A	65	ALA	CA-C-N	6.10	128.87	120.39	2	2
1	A	65	ALA	C-N-CA	6.10	128.87	120.39	2	2
1	A	67	PRO	CA-C-O	-6.05	114.62	122.12	2	1
1	A	9	ILE	N-CA-C	6.00	117.46	110.62	2	1
1	A	11	GLU	N-CA-C	6.00	118.58	111.33	2	1
1	A	145	ARG	CA-C-O	-5.97	114.22	120.55	1	1
2	B	49	GLN	N-CA-CB	-5.97	100.96	109.85	3	1
1	A	83	LEU	N-CA-C	5.96	120.57	112.88	1	1
2	B	31	GLN	CG-CD-NE2	5.94	125.31	116.40	3	1
2	B	28	ALA	O-C-N	-5.93	115.84	122.12	1	1
2	B	37	PRO	CA-N-CD	-5.92	103.71	112.00	3	1
1	A	14	ARG	O-C-N	-5.92	115.98	122.07	1	1
1	A	95	TRP	NE1-CE2-CD2	-5.88	99.75	107.40	3	1
2	B	54	ARG	NE-CZ-NH2	5.88	124.49	119.20	1	1
1	A	138	GLU	CB-CA-C	5.88	120.67	110.68	3	1
1	A	6	ARG	NE-CZ-NH2	-5.86	113.93	119.20	1	1
2	B	50	LEU	CA-C-N	5.85	129.87	121.50	2	1
2	B	50	LEU	C-N-CA	5.85	129.87	121.50	2	1
1	A	6	ARG	NE-CZ-NH1	5.84	127.34	121.50	1	1
1	A	34	TYR	N-CA-CB	-5.84	101.60	110.77	1	1
1	A	31	ASN	CA-CB-CG	5.84	118.44	112.60	1	1
1	A	43	GLN	OE1-CD-NE2	-5.83	116.77	122.60	1	1
1	A	90	ILE	CA-C-N	5.83	133.60	121.94	1	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	90	ILE	C-N-CA	5.83	133.60	121.94	1	1
2	B	42	ARG	CA-C-O	5.83	126.54	120.30	1	1
1	A	133	GLU	CA-C-N	5.83	128.01	120.44	3	1
1	A	133	GLU	C-N-CA	5.83	128.01	120.44	3	1
2	B	15	LEU	O-C-N	-5.81	116.86	123.48	3	1
1	A	102	ARG	NE-CZ-NH2	-5.80	113.98	119.20	2	2
1	A	33	ARG	NE-CZ-NH2	5.80	124.42	119.20	3	1
1	A	119	ASP	CA-CB-CG	5.78	118.38	112.60	3	1
1	A	12	THR	CA-C-N	5.77	128.27	120.65	3	1
1	A	12	THR	C-N-CA	5.77	128.27	120.65	3	1
1	A	134	ALA	CA-C-N	5.77	130.48	120.68	2	1
1	A	134	ALA	C-N-CA	5.77	130.48	120.68	2	1
1	A	92	LYS	CB-CA-C	5.76	119.88	110.95	2	1
2	B	31	GLN	O-C-N	-5.76	116.02	122.12	2	2
2	B	69	LEU	CB-CA-C	5.75	120.35	109.37	2	1
1	A	75	ILE	CA-CB-CG2	5.74	120.26	110.50	1	1
2	B	39	ASP	CA-C-N	5.73	129.02	120.31	2	1
2	B	39	ASP	C-N-CA	5.73	129.02	120.31	2	1
1	A	125	VAL	CA-C-O	5.72	126.83	120.71	1	1
1	A	37	VAL	N-CA-C	5.71	115.77	107.88	2	1
2	B	4	PHE	N-CA-C	5.71	118.09	109.41	1	1
1	A	89	ASP	CA-C-N	5.70	128.57	120.53	2	1
1	A	89	ASP	C-N-CA	5.70	128.57	120.53	2	1
1	A	143	TRP	CA-CB-CG	5.70	124.42	113.60	2	1
2	B	68	HIS	ND1-CE1-NE2	5.69	114.09	108.40	2	2
1	A	141	ARG	CA-C-O	-5.68	114.82	121.07	3	1
1	A	33	ARG	NE-CZ-NH1	5.68	127.18	121.50	1	1
2	B	44	ILE	CA-CB-CG2	5.68	120.15	110.50	2	1
1	A	145	ARG	NH1-CZ-NH2	-5.67	111.92	119.30	1	1
1	A	81	ASP	CA-CB-CG	5.67	118.28	112.60	2	2
2	B	16	GLU	CB-CA-C	-5.67	101.40	110.14	2	1
1	A	37	VAL	CA-CB-CG2	5.67	120.03	110.40	1	1
1	A	15	LEU	CB-CA-C	5.66	121.44	110.46	2	1
1	A	10	LYS	CB-CA-C	5.66	120.18	110.79	3	1
1	A	20	VAL	CB-CA-C	5.65	117.18	110.68	2	1
1	A	23	ILE	CA-C-O	-5.65	115.29	121.28	3	1
1	A	16	LEU	N-CA-C	5.64	117.11	111.07	1	1
1	A	104	VAL	CA-CB-CG1	5.62	119.95	110.40	1	1
1	A	72	MET	O-C-N	-5.62	115.62	122.25	2	1
2	B	5	VAL	CA-CB-CG2	5.58	119.89	110.40	3	2
1	A	67	PRO	N-CA-CB	5.57	108.74	102.67	1	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
2	B	5	VAL	CA-C-N	5.56	130.58	122.41	2	1
2	B	5	VAL	C-N-CA	5.56	130.58	122.41	2	1
1	A	36	HIS	N-CA-CB	-5.54	102.44	110.36	3	1
1	A	63	PRO	N-CD-CG	5.54	110.45	103.80	3	1
1	A	7	ARG	CA-C-N	5.53	127.61	120.70	1	1
1	A	7	ARG	C-N-CA	5.53	127.61	120.70	1	1
1	A	42	PRO	CA-C-O	5.53	128.41	121.67	3	1
1	A	106	LEU	CA-C-O	-5.53	114.56	120.42	1	1
2	B	51	GLU	CA-C-N	5.52	127.62	120.44	1	1
2	B	51	GLU	C-N-CA	5.52	127.62	120.44	1	1
1	A	137	ILE	CA-C-N	5.50	127.65	120.28	1	1
1	A	137	ILE	C-N-CA	5.50	127.65	120.28	1	1
1	A	131	THR	CA-CB-OG1	-5.48	101.39	109.60	3	1
1	A	132	ASN	O-C-N	-5.47	116.80	123.36	1	1
1	A	37	VAL	CA-C-N	5.46	131.38	122.69	2	1
1	A	37	VAL	C-N-CA	5.46	131.38	122.69	2	1
1	A	77	HIS	ND1-CG-CD2	5.46	111.56	106.10	1	1
1	A	59	PRO	O-C-N	-5.46	116.30	122.91	3	1
2	B	14	THR	CA-CB-CG2	5.43	119.74	110.50	1	1
1	A	38	VAL	CA-CB-CG2	5.43	119.64	110.40	3	1
2	B	54	ARG	CA-C-N	5.43	131.04	122.36	1	1
2	B	54	ARG	C-N-CA	5.43	131.04	122.36	1	1
1	A	132	ASN	CA-C-O	5.42	126.32	119.98	1	1
1	A	52	PHE	CB-CA-C	-5.42	102.02	110.74	3	1
1	A	64	MET	CA-C-N	5.41	131.22	122.29	2	1
1	A	64	MET	C-N-CA	5.41	131.22	122.29	2	1
2	B	12	THR	CA-CB-CG2	5.41	119.69	110.50	3	1
1	A	105	LEU	CA-C-O	5.40	126.49	120.82	3	1
1	A	80	VAL	N-CA-C	5.39	115.75	107.77	1	1
1	A	52	PHE	CA-CB-CG	-5.38	108.42	113.80	3	1
1	A	132	ASN	N-CA-C	5.38	116.85	107.49	1	1
1	A	87	CYS	CA-C-N	5.37	128.72	121.05	1	1
1	A	87	CYS	C-N-CA	5.37	128.72	121.05	1	1
1	A	37	VAL	CA-CB-CG1	5.36	119.51	110.40	2	1
2	B	6	LYS	CA-C-O	-5.34	115.36	120.92	2	1
1	A	44	ASP	CB-CA-C	5.34	119.91	112.11	2	1
1	A	45	SER	CA-C-N	5.34	124.85	119.19	2	1
1	A	45	SER	C-N-CA	5.34	124.85	119.19	2	1
1	A	99	LEU	O-C-N	-5.33	116.56	122.86	1	1
1	A	75	ILE	N-CA-CB	-5.33	103.22	111.05	3	1
1	A	76	TYR	CB-CG-CD1	-5.32	112.81	120.80	2	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
2	B	4	PHE	CA-CB-CG	5.31	119.11	113.80	1	1
2	B	14	THR	N-CA-C	5.31	118.05	109.40	2	1
1	A	29	GLU	CA-C-N	5.30	127.92	120.28	2	1
1	A	29	GLU	C-N-CA	5.30	127.92	120.28	2	1
2	B	38	PRO	CA-C-N	5.30	127.70	120.54	3	1
2	B	38	PRO	C-N-CA	5.30	127.70	120.54	3	1
1	A	132	ASN	CA-C-N	5.30	127.38	120.28	3	1
1	A	132	ASN	C-N-CA	5.30	127.38	120.28	3	1
1	A	71	PHE	CA-C-N	5.29	131.79	122.42	3	1
1	A	71	PHE	C-N-CA	5.29	131.79	122.42	3	1
1	A	110	ALA	CA-C-O	-5.29	113.08	119.49	2	1
1	A	8	ILE	N-CA-CB	5.29	116.63	110.65	2	1
2	B	25	ASN	N-CA-CB	-5.27	102.09	109.94	2	1
1	A	77	HIS	CB-CG-CD2	-5.27	124.35	131.20	3	1
1	A	104	VAL	N-CA-C	5.27	115.89	110.36	1	1
1	A	102	ARG	CA-C-O	-5.24	115.50	121.00	1	1
1	A	61	GLU	O-C-N	-5.23	114.65	122.39	3	1
1	A	36	HIS	CA-C-O	-5.23	114.96	120.92	2	1
1	A	109	GLN	OE1-CD-NE2	-5.22	117.38	122.60	3	1
2	B	59	TYR	CA-C-N	5.22	131.50	121.54	2	1
2	B	59	TYR	C-N-CA	5.22	131.50	121.54	2	1
1	A	14	ARG	CB-CA-C	5.21	119.44	110.79	2	1
1	A	12	THR	CA-CB-CG2	5.21	119.35	110.50	1	1
2	B	37	PRO	CA-C-O	5.19	124.64	120.90	2	1
1	A	68	LYS	CA-C-O	5.18	125.92	120.54	2	1
1	A	64	MET	CA-C-O	5.18	125.91	120.42	3	1
1	A	144	THR	O-C-N	-5.17	116.65	122.03	1	1
2	B	32	ASP	CA-C-N	5.16	127.15	120.44	2	1
2	B	32	ASP	C-N-CA	5.16	127.15	120.44	2	1
1	A	11	GLU	CA-C-N	5.16	127.46	120.65	1	1
1	A	11	GLU	C-N-CA	5.16	127.46	120.65	1	1
1	A	133	GLU	CA-C-O	-5.16	115.06	120.63	2	1
1	A	130	LYS	CB-CA-C	5.14	120.87	110.38	1	1
1	A	51	THR	CA-CB-OG1	5.14	117.31	109.60	2	1
1	A	95	TRP	CE2-CD2-CE3	-5.13	113.67	118.80	3	1
1	A	69	VAL	CA-C-O	-5.12	115.42	120.90	1	1
2	B	49	GLN	CA-C-N	5.12	129.94	122.41	3	1
2	B	49	GLN	C-N-CA	5.12	129.94	122.41	3	1
1	A	18	GLU	CA-CB-CG	5.10	124.30	114.10	3	1
2	B	1	MET	CA-C-O	-5.09	112.14	120.80	1	1
2	B	44	ILE	CB-CA-C	-5.09	101.59	110.71	2	1

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	85	ARG	O-C-N	5.09	129.44	122.82	2	1
2	B	49	GLN	CB-CA-C	5.09	118.20	109.80	2	1
2	B	1	MET	N-CA-CB	5.09	119.15	110.50	2	1
1	A	43	GLN	N-CA-CB	-5.08	102.57	110.04	2	1
1	A	56	LEU	CB-CA-C	5.07	119.67	109.38	3	1
1	A	142	ALA	CA-C-N	5.07	127.07	120.28	2	1
1	A	142	ALA	C-N-CA	5.07	127.07	120.28	2	1
1	A	111	LEU	CB-CA-C	5.07	119.20	110.79	1	1
1	A	36	HIS	ND1-CE1-NE2	5.06	113.46	108.40	2	1
1	A	126	ALA	CA-C-N	5.05	127.05	120.28	2	1
1	A	126	ALA	C-N-CA	5.05	127.05	120.28	2	1
2	B	27	LYS	N-CA-CB	-5.05	102.45	110.28	2	1
1	A	95	TRP	CE2-CD2-CG	5.04	113.25	107.20	3	1
2	B	19	PRO	CA-C-N	5.04	130.84	122.73	3	1
2	B	19	PRO	C-N-CA	5.04	130.84	122.73	3	1
1	A	38	VAL	CA-C-N	5.04	129.67	123.12	3	1
1	A	38	VAL	C-N-CA	5.04	129.67	123.12	3	1
1	A	121	LEU	N-CA-C	-5.03	108.88	114.62	2	1
1	A	132	ASN	CB-CA-C	5.02	117.36	110.94	1	1
2	B	28	ALA	CA-C-N	5.02	127.42	120.29	1	1
2	B	28	ALA	C-N-CA	5.02	127.42	120.29	1	1
1	A	86	ILE	N-CA-CB	5.01	117.20	111.39	1	1
1	A	64	MET	N-CA-C	5.00	119.24	113.18	1	1
2	B	59	TYR	N-CA-C	5.00	119.23	113.18	2	1
1	A	86	ILE	CA-C-O	5.00	126.86	121.36	2	1

There are no chirality outliers.

All unique planar outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Group	Models (Total)
1	A	70	ARG	Sidechain	1
1	A	92	LYS	Peptide	1
1	A	102	ARG	Sidechain	1
1	A	6	ARG	Sidechain	1
1	A	34	TYR	Sidechain	1
1	A	52	PHE	Sidechain	1
1	A	54	LEU	Mainchain	1
2	B	23	ILE	Mainchain	1
2	B	54	ARG	Sidechain	1
1	A	14	ARG	Sidechain	1

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Mol	Chain	Res	Type	Group	Models (Total)
1	A	35	PHE	Peptide	1
1	A	76	TYR	Sidechain	1
1	A	107	SER	Mainchain	1
2	B	45	PHE	Sidechain	1

6.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in each chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes averaged over the ensemble.

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	1164	1178	1176	0±0
2	B	555	576	575	2±1
All	All	5247	5322	5253	7

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 1.

All unique clashes are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:B:8:LEU:C	2:B:10:GLY:H	0.48	2.15	3	1
2:B:7:THR:OG1	2:B:8:LEU:N	0.42	2.52	2	1
2:B:8:LEU:C	2:B:10:GLY:N	0.42	2.75	3	1
2:B:7:THR:HG22	2:B:11:LYS:O	0.42	2.15	3	1
2:B:3:ILE:C	2:B:3:ILE:HD12	0.41	2.40	2	1
1:A:88:LEU:HD11	1:A:90:ILE:HD12	0.41	1.91	2	1
2:B:8:LEU:C	2:B:8:LEU:CD2	0.41	2.93	1	1

6.3 Torsion angles

6.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the backbone conformation was analysed and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	145/150 (97%)	134±3 (93±2%)	10±3 (7±2%)	0±0 (0±0%)	45 81
2	B	69/76 (91%)	65±1 (94±2%)	4±0 (5±1%)	1±1 (1±1%)	16 65
All	All	642/678 (95%)	597 (93%)	42 (7%)	3 (0%)	27 74

All 3 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
2	B	8	LEU	1
2	B	9	THR	1
1	A	94	LYS	1

6.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the sidechain conformation was analysed and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	125/128 (98%)	119±1 (95±1%)	6±1 (5±1%)	24 77
2	B	64/68 (94%)	62±0 (97±1%)	2±0 (3±1%)	42 89
All	All	567/588 (96%)	544 (96%)	23 (4%)	28 81

All 21 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	A	63	PRO	2
2	B	7	THR	2
1	A	27	PRO	1
1	A	44	ASP	1
1	A	51	THR	1
1	A	54	LEU	1
1	A	55	GLU	1
1	A	121	LEU	1
2	B	8	LEU	1
1	A	37	VAL	1
1	A	43	GLN	1
1	A	83	LEU	1
1	A	138	GLU	1

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Mol	Chain	Res	Type	Models (Total)
2	B	38	PRO	1
1	A	14	ARG	1
1	A	23	ILE	1
1	A	103	THR	1
1	A	108	ILE	1
1	A	111	LEU	1
1	A	124	ASP	1
2	B	15	LEU	1

6.3.3 RNA (i)

There are no RNA molecules in this entry.

6.4 Non-standard residues in protein, DNA, RNA chains (i)

There are no non-standard protein/DNA/RNA residues in this entry.

6.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.6 Ligand geometry (i)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds for which Mogul statistics could be retrieved, the number of bonds that are observed in the model and the number of bonds that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length is the number of standard deviations the observed value is removed from the expected value. A bond length with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the average root-mean-square of all Z scores of the bond lengths.

Mol	Type	Chain	Res	Link	Bond lengths		
					Counts	RMSZ	#Z>2
3	A1EQF	A	201	1	23,33,33	1.10±0.08	2±0 (7±2%)

In the following table, the Counts columns list the number of angles for which Mogul statistics could be retrieved, the number of angles that are observed in the model and the number of angles that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond angle is the number of standard

deviations the observed value is removed from the expected value. A bond angle with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the average root-mean-square of all Z scores of the bond angles.

Mol	Type	Chain	Res	Link	Bond angles		
					Counts	RMSZ	#Z>2
3	A1EQF	A	201	1	27,48,48	0.89±0.05	0±0 (1±1%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	A1EQF	A	201	1	-	0±0,9,60,60	0±0,1,4,4

All unique bond outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
3	A	201	A1EQF	CY5-N8	3.73	1.51	1.41	1	1
3	A	201	A1EQF	C6-C7	2.13	1.58	1.51	2	1
3	A	201	A1EQF	C1-N5	2.12	1.42	1.38	3	3

All unique angle outliers are listed below.

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
3	A	201	A1EQF	C7-C6-N5	2.62	116.21	111.84	1	1

There are no chirality outliers.

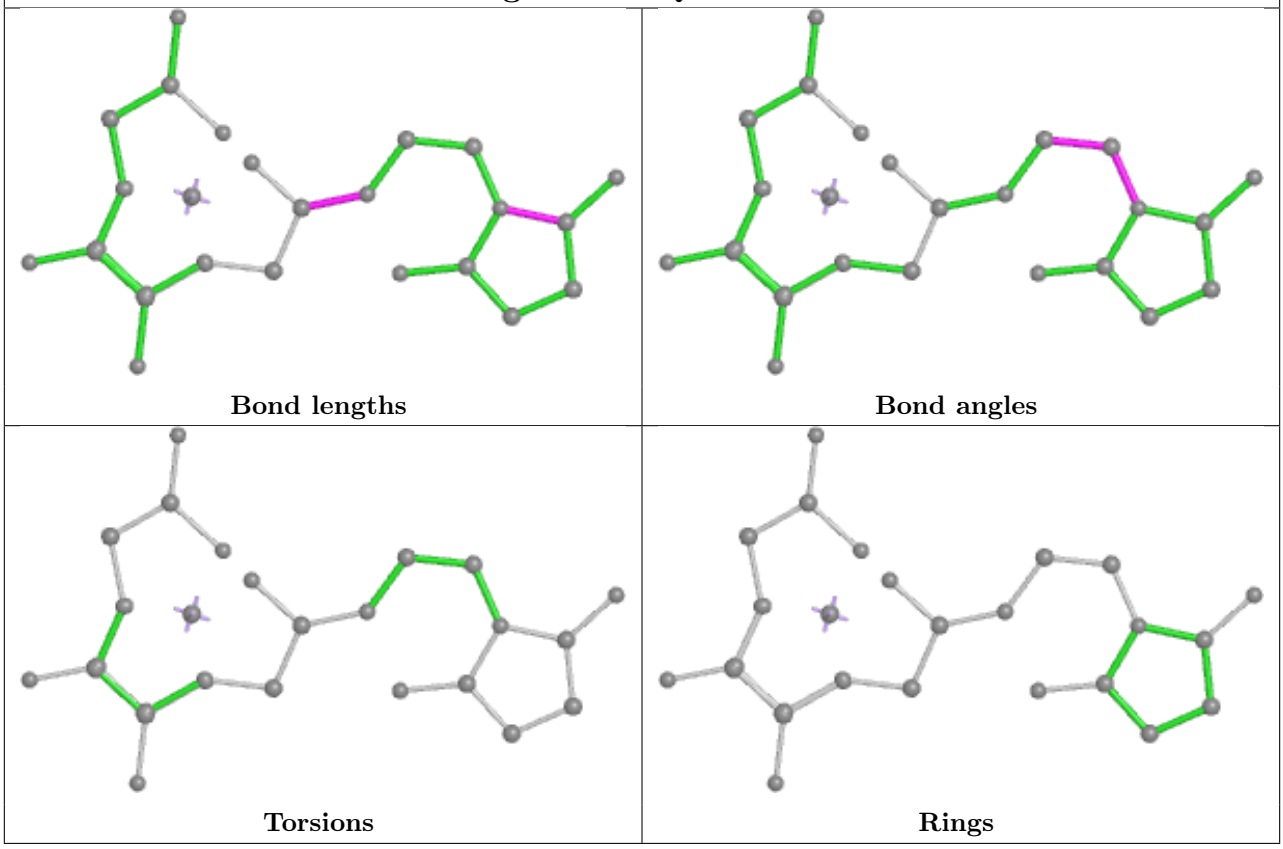
There are no torsion outliers.

There are no ring outliers.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and

any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand A1EQF A 201



6.7 Other polymers (i)

There are no such molecules in this entry.

6.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

7 Chemical shift validation

The completeness of assignment taking into account all chemical shift lists is 11% for the well-defined parts and 11% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *assigned_chem_shift_list_1*

7.1.1 Bookkeeping

The following table shows the results of parsing the chemical shift list and reports the number of nuclei with statistically unusual chemical shifts.

Total number of shifts	354
Number of shifts mapped to atoms	354
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	0

7.1.2 Chemical shift referencing

The following table shows the suggested chemical shift referencing corrections.

Nucleus	# values	Correction ± precision, *ppm*	Suggested action
$^{13}C_{\alpha}$	75	-0.37 ± 0.12	None needed (< 0.5 ppm)
$^{13}C_{\beta}$	69	0.11 ± 0.13	None needed (< 0.5 ppm)
$^{13}C'$	70	-0.31 ± 0.16	None needed (< 0.5 ppm)
^{15}N	70	0.74 ± 0.48	None needed (imprecise)

7.1.3 Completeness of resonance assignments

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 11%, i.e. 327 atoms were assigned a chemical shift out of a possible 3026. 0 out of 33 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Backbone	262/1055 (25%)	64/424 (15%)	134/432 (31%)	64/199 (32%)
Sidechain	65/1796 (4%)	0/1167 (0%)	65/561 (12%)	0/68 (0%)

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	Total	^{1}H	^{13}C	^{15}N
Aromatic	0/175 (0%)	0/85 (0%)	0/81 (0%)	0/9 (0%)
Overall	327/3026 (11%)	64/1676 (4%)	199/1074 (19%)	64/276 (23%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 11%, i.e. 354 atoms were assigned a chemical shift out of a possible 3144. 0 out of 36 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^{1}H	^{13}C	^{15}N
Backbone	285/1098 (26%)	70/443 (16%)	145/448 (32%)	70/207 (34%)
Sidechain	69/1871 (4%)	0/1216 (0%)	69/581 (12%)	0/74 (0%)
Aromatic	0/175 (0%)	0/85 (0%)	0/81 (0%)	0/9 (0%)
Overall	354/3144 (11%)	70/1744 (4%)	214/1110 (19%)	70/290 (24%)

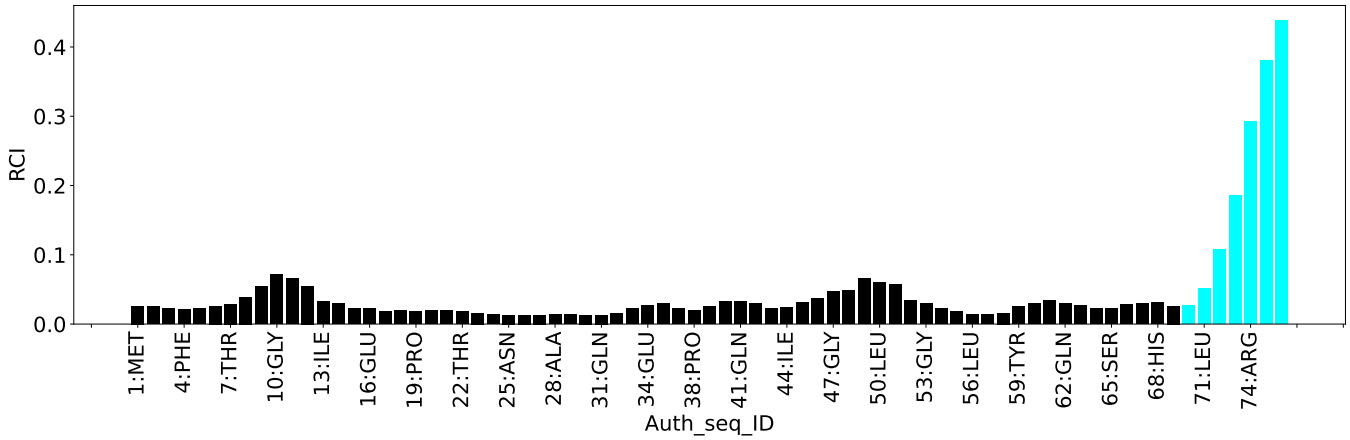
7.1.4 Statistically unusual chemical shifts (i)

There are no statistically unusual chemical shifts.

7.1.5 Random Coil Index (RCI) plots (i)

The image below reports *random coil index* values for the protein chains in the structure. The height of each bar gives a probability of a given residue to be disordered, as predicted from the available chemical shifts and the amino acid sequence. A value above 0.2 is an indication of significant predicted disorder. The colour of the bar shows whether the residue is in the well-defined core (black) or in the ill-defined residue ranges (cyan), as described in section 2 on ensemble composition.If well-defined core and ill-defined regions are not identified then it is shown as gray bars.

Random coil index (RCI) for chain B:



8 NMR restraints analysis

8.1 Conformationally restricting restraints

The following table provides the summary of experimentally observed NMR restraints in different categories. Restraints are classified into different categories based on the sequence separation of the atoms involved.

Description	Value
Total distance restraints	65
Intra-residue (|i-j|=0)	0
Sequential (|i-j|=1)	1
Medium range (|i-j|>1 and |i-j|<5)	3
Long range (|i-j|≥5)	61
Inter-chain	0
Hydrogen bond restraints	0
Disulfide bond restraints	0
Total dihedral-angle restraints	0
Number of unmapped restraints	0
Number of restraints per residue	0.3
Number of long range restraints per residue[1]	0.3

[1]Long range hydrogen bonds and disulfide bonds are counted as long range restraints while calculating the number of long range restraints per residue

8.2 Residual restraint violations

This section provides the overview of the restraint violations analysis. The violations are binned as small, medium and large violations based on its absolute value. Average number of violations per model is calculated by dividing the total number of violations in each bin by the size of the ensemble.

8.2.1 Average number of distance violations per model

Distance violations less than 0.1 Å
are not included in the calculation.

Bins (Å)	Average number of violations per model	Max (Å)
0.1-0.2 (Small)	None	None
0.2-0.5 (Medium)	0.3	0.36
>0.5 (Large)	64.7	17.69

8.2.2 Average number of dihedral-angle violations per model (i)

Dihedral-angle violations less than 1° are not included in the calculation.There are no dihedral-angle violations

9 Distance violation analysis (i)

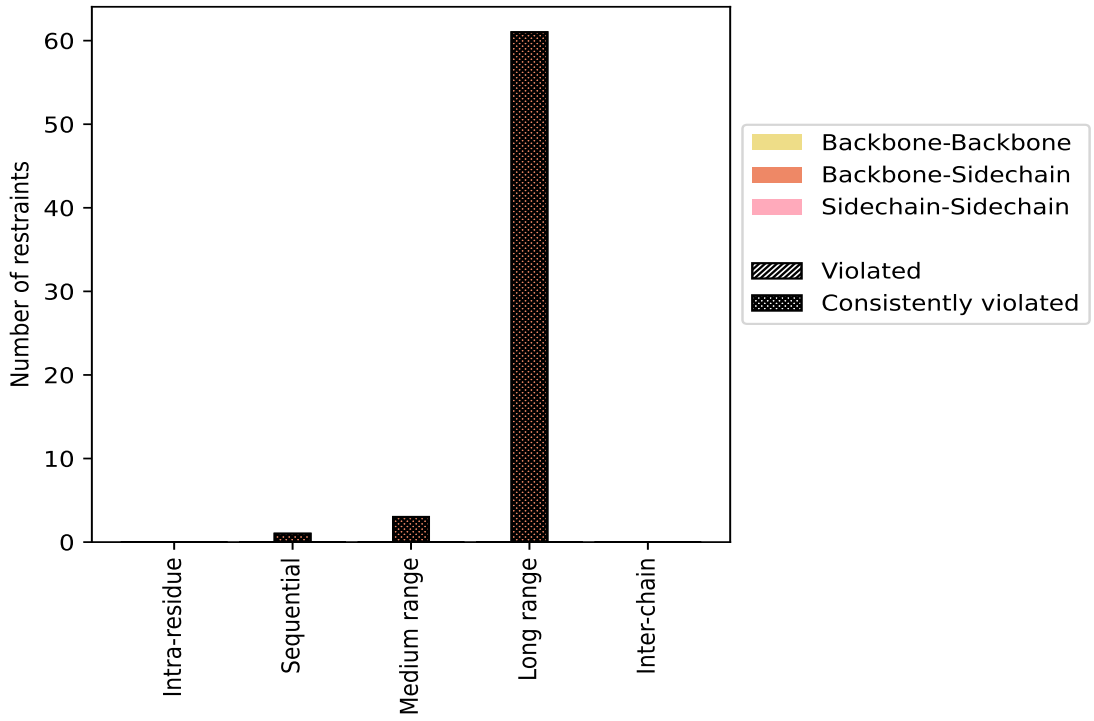
9.1 Summary of distance violations (i)

The following table shows the summary of distance violations in different restraint categories based on the sequence separation of the atoms involved. Each category is further sub-divided into three sub-categories based on the atoms involved. Violations less than 0.1 Å are not included in the statistics.

Restraints type	Count	%[1]	Violated[3]			Consistently Violated[4]		
			Count	%[2]	%[1]	Count	%[2]	%[1]
Intra-residue (|i-j|=0)	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sequential (|i-j|=1)	1	1.5	1	100.0	1.5	1	100.0	1.5
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	1	1.5	1	100.0	1.5	1	100.0	1.5
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Medium range (|i-j|>1 & |i-j|<5)	3	4.6	3	100.0	4.6	3	100.0	4.6
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	3	4.6	3	100.0	4.6	3	100.0	4.6
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Long range (|i-j|≥5)	61	93.8	61	100.0	93.8	61	100.0	93.8
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	61	93.8	61	100.0	93.8	61	100.0	93.8
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Inter-chain	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0
Hydrogen bond	0	0.0	0	0.0	0.0	0	0.0	0.0
Disulfide bond	0	0.0	0	0.0	0.0	0	0.0	0.0
Total	65	100.0	65	100.0	100.0	65	100.0	100.0
Backbone-Backbone	0	0.0	0	0.0	0.0	0	0.0	0.0
Backbone-Sidechain	65	100.0	65	100.0	100.0	65	100.0	100.0
Sidechain-Sidechain	0	0.0	0	0.0	0.0	0	0.0	0.0

[1] percentage calculated with respect to the total number of distance restraints, [2] percentage calculated with respect to the number of restraints in a particular restraint category, [3] violated in at least one model, [4] violated in all the models

9.1.1 Bar chart : Distribution of distance restraints and violations



Violated and consistently violated restraints are shown using different hatch patterns in their respective categories. The hydrogen bonds and disulfied bonds are counted in their appropriate category on the x-axis

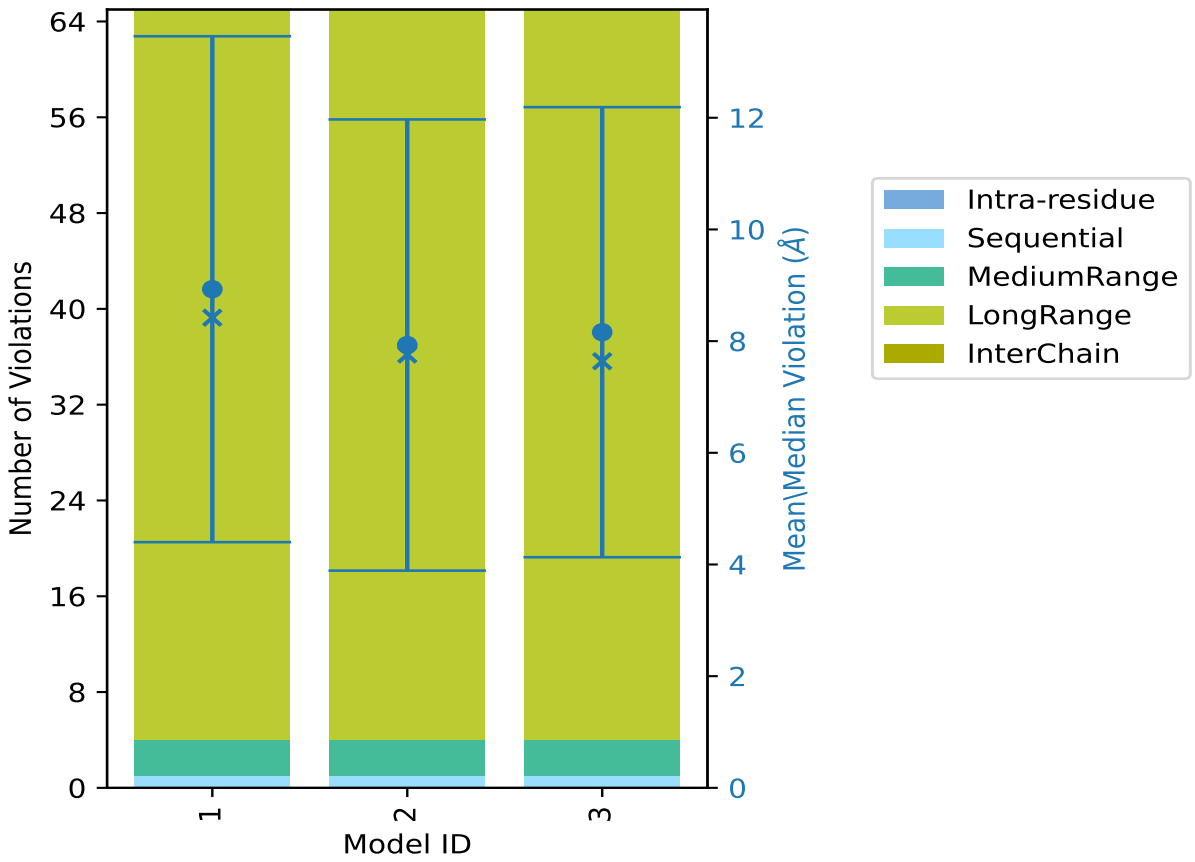
9.2 Distance violation statistics for each model

The following table provides the distance violation statistics for each model in the ensemble. Violations less than 0.1 Å
are not included in the statistics.

Model ID	Number of violations						Mean (Å)	Max (Å)	SD[6] (Å)	Median (Å)
	IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total				
1	0	1	3	61	0	65	8.93	17.69	4.53	8.42
2	0	1	3	61	0	65	7.93	15.91	4.04	7.76
3	0	1	3	61	0	65	8.16	16.38	4.03	7.64

[1]Intra-residue restraints, [2]Sequential restraints, [3]Medium range restraints, [4]Long range restraints, [5]Inter-chain restraints, [6]Standard deviation

9.2.1 Bar graph : Distance Violation statistics for each model



The mean(dot),median(x) and the standard deviation are shown in blue with respect to the y axis on the right

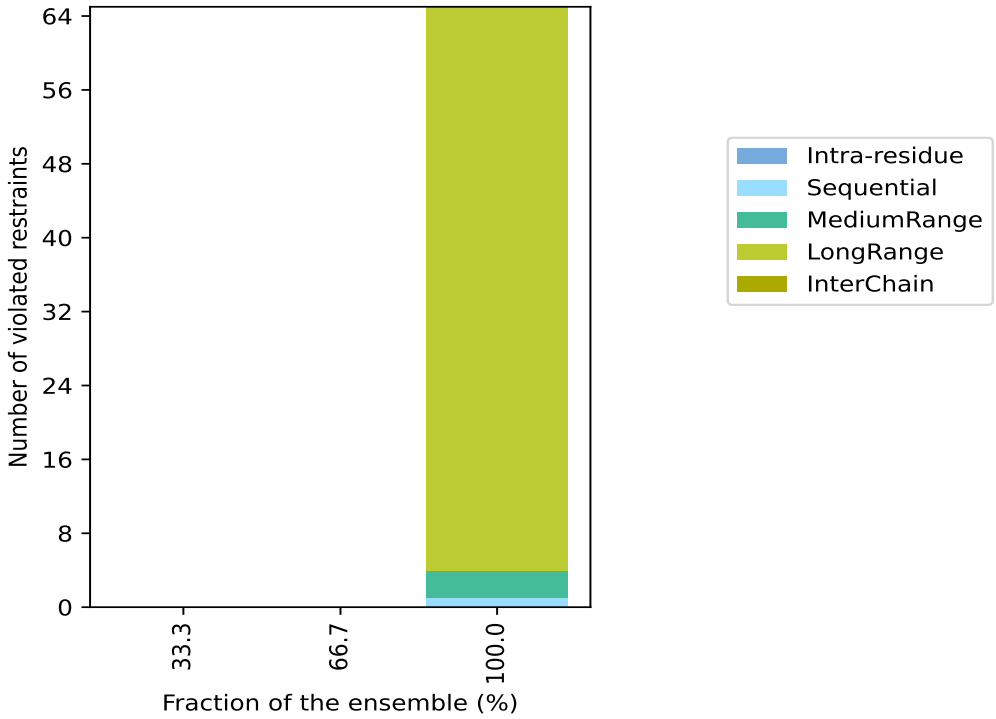
9.3 Distance violation statistics for the ensemble

Violation analysis may find that some restraints are violated in few models and some are violated in most of models. The following table provides this information as number of violated restraints for a given fraction of the ensemble. In total, 0(IR:0, SQ:0, MR:0, LR:0, IC:0) restraints are not violated in the ensemble.

Number of violated restraints						Fraction of the ensemble	
IR[1]	SQ[2]	MR[3]	LR[4]	IC[5]	Total	Count[6]	%
0	0	0	0	0	0	1	33.3
0	0	0	0	0	0	2	66.7
0	1	3	61	0	65	3	100.0

[1]Intra-residue restraints, [2]Sequential restraints, [3]Medium range restraints, [4]Long range restraints, [5]Inter-chain restraints, [6] Number of models with violations

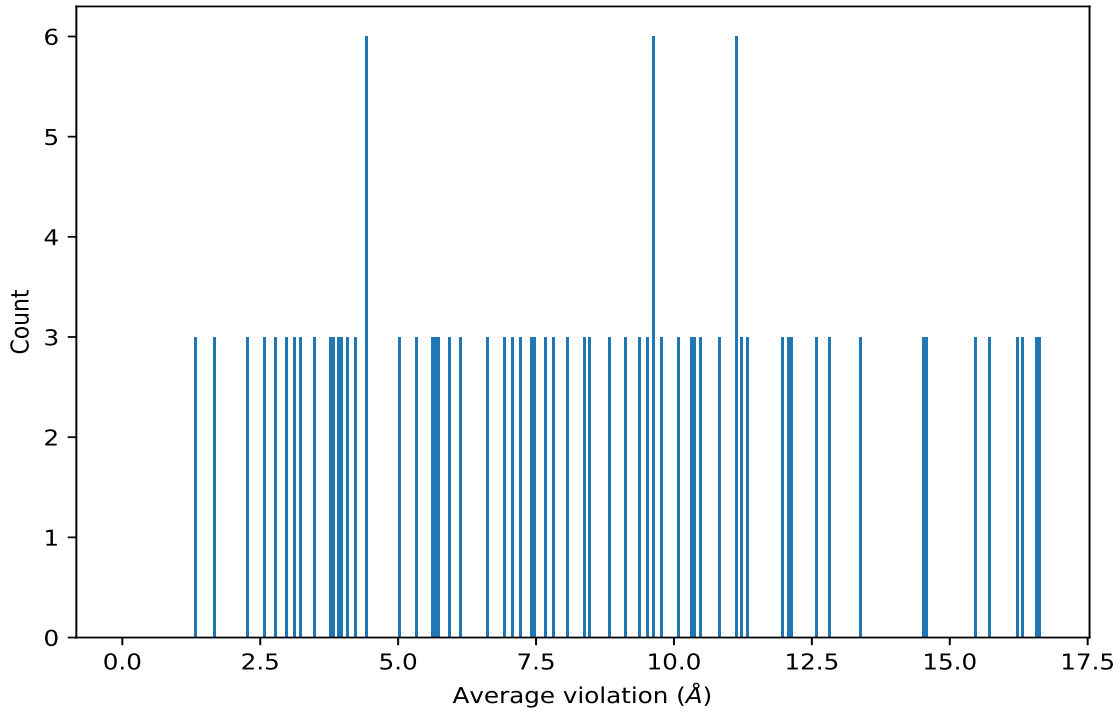
9.3.1 Bar graph : Distance violation statistics for the ensemble



9.4 Most violated distance restraints in the ensemble

9.4.1 Histogram : Distribution of mean distance violations

The following histogram shows the distribution of the average value of the violation. The average is calculated for each restraint that is violated in more than one model over all the violated models in the ensemble



9.4.2 Table: Most violated distance restraints (i)

The following table provides the mean and the standard deviation of theviolation for each restraint sorted by number of violated models and the mean value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE1	3	16.61	0.78	16.38
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE2	3	16.61	0.78	16.38
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE3	3	16.61	0.78	16.38
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE1	3	16.58	0.79	16.14
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE2	3	16.58	0.79	16.14
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE3	3	16.58	0.79	16.14
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE1	3	16.34	0.79	16.12
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE2	3	16.34	0.79	16.12
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE3	3	16.34	0.79	16.12
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE1	3	16.21	1.08	15.94
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE2	3	16.21	1.08	15.94
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE3	3	16.21	1.08	15.94
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE1	3	15.7	0.84	15.18
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE2	3	15.7	0.84	15.18
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE3	3	15.7	0.84	15.18
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE1	3	15.48	0.75	15.22

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Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE2	3	15.48	0.75	15.22
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE3	3	15.48	0.75	15.22
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE1	3	14.58	0.97	14.35
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE2	3	14.58	0.97	14.35
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE3	3	14.58	0.97	14.35
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE1	3	14.52	0.86	14.27
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE2	3	14.52	0.86	14.27
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE3	3	14.52	0.86	14.27
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE1	3	13.39	1.15	13.44
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE2	3	13.39	1.15	13.44
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE3	3	13.39	1.15	13.44
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE1	3	12.82	0.81	12.46
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE2	3	12.82	0.81	12.46
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE3	3	12.82	0.81	12.46
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE1	3	12.57	0.7	12.29
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE2	3	12.57	0.7	12.29
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE3	3	12.57	0.7	12.29
(1,6)	2:7:B:THR:H	2:1:B:MET:HE1	3	12.1	0.47	12.2
(1,6)	2:7:B:THR:H	2:1:B:MET:HE2	3	12.1	0.47	12.2
(1,6)	2:7:B:THR:H	2:1:B:MET:HE3	3	12.1	0.47	12.2
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE1	3	12.05	0.88	11.45
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE2	3	12.05	0.88	11.45
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE3	3	12.05	0.88	11.45
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE1	3	11.99	1.04	11.53
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE2	3	11.99	1.04	11.53
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE3	3	11.99	1.04	11.53
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE1	3	11.31	0.82	10.75
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE2	3	11.31	0.82	10.75
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE3	3	11.31	0.82	10.75
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE1	3	11.23	1.09	10.47
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE2	3	11.23	1.09	10.47
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE3	3	11.23	1.09	10.47
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE1	3	11.13	0.41	11.15
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE2	3	11.13	0.41	11.15
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE3	3	11.13	0.41	11.15
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE1	3	11.11	0.89	10.62
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE2	3	11.11	0.89	10.62
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE3	3	11.11	0.89	10.62
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE1	3	10.8	0.82	10.47
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE2	3	10.8	0.82	10.47
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE3	3	10.8	0.82	10.47
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE1	3	10.48	0.57	10.22

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Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE2	3	10.48	0.57	10.22
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE3	3	10.48	0.57	10.22
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE1	3	10.36	0.82	9.83
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE2	3	10.36	0.82	9.83
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE3	3	10.36	0.82	9.83
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE1	3	10.32	0.45	10.12
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE2	3	10.32	0.45	10.12
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE3	3	10.32	0.45	10.12
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE1	3	10.06	0.46	9.95
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE2	3	10.06	0.46	9.95
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE3	3	10.06	0.46	9.95
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE1	3	9.79	0.67	9.35
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE2	3	9.79	0.67	9.35
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE3	3	9.79	0.67	9.35
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE1	3	9.61	0.55	9.34
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE2	3	9.61	0.55	9.34
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE3	3	9.61	0.55	9.34
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE1	3	9.61	3.47	10.78
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE2	3	9.61	3.47	10.78
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE3	3	9.61	3.47	10.78
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE1	3	9.54	0.59	9.54
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE2	3	9.54	0.59	9.54
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE3	3	9.54	0.59	9.54
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE1	3	9.35	1.0	8.99
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE2	3	9.35	1.0	8.99
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE3	3	9.35	1.0	8.99
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE1	3	9.14	0.56	8.89
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE2	3	9.14	0.56	8.89
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE3	3	9.14	0.56	8.89
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE1	3	8.83	0.76	8.57
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE2	3	8.83	0.76	8.57
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE3	3	8.83	0.76	8.57
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE1	3	8.48	0.87	8.81
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE2	3	8.48	0.87	8.81
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE3	3	8.48	0.87	8.81
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE1	3	8.39	0.66	7.96
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE2	3	8.39	0.66	7.96
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE3	3	8.39	0.66	7.96
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE1	3	8.05	0.54	7.76
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE2	3	8.05	0.54	7.76
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE3	3	8.05	0.54	7.76
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE1	3	7.83	0.42	7.62

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Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE2	3	7.83	0.42	7.62
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE3	3	7.83	0.42	7.62
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE1	3	7.69	0.75	7.6
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE2	3	7.69	0.75	7.6
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE3	3	7.69	0.75	7.6
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE1	3	7.46	0.46	7.64
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE2	3	7.46	0.46	7.64
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE3	3	7.46	0.46	7.64
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE1	3	7.43	0.67	7.05
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE2	3	7.43	0.67	7.05
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE3	3	7.43	0.67	7.05
(1,18)	2:22:B:THR:H	2:1:B:MET:HE1	3	7.22	0.37	7.1
(1,18)	2:22:B:THR:H	2:1:B:MET:HE2	3	7.22	0.37	7.1
(1,18)	2:22:B:THR:H	2:1:B:MET:HE3	3	7.22	0.37	7.1
(1,42)	2:55:B:THR:H	2:1:B:MET:HE1	3	7.09	0.13	7.08
(1,42)	2:55:B:THR:H	2:1:B:MET:HE2	3	7.09	0.13	7.08
(1,42)	2:55:B:THR:H	2:1:B:MET:HE3	3	7.09	0.13	7.08
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE1	3	6.9	0.68	7.38
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE2	3	6.9	0.68	7.38
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE3	3	6.9	0.68	7.38
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE1	3	6.61	0.96	6.98
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE2	3	6.61	0.96	6.98
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE3	3	6.61	0.96	6.98
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE1	3	6.12	0.66	5.94
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE2	3	6.12	0.66	5.94
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE3	3	6.12	0.66	5.94
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE1	3	5.91	0.59	5.74
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE2	3	5.91	0.59	5.74
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE3	3	5.91	0.59	5.74
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE1	3	5.74	0.83	5.63
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE2	3	5.74	0.83	5.63
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE3	3	5.74	0.83	5.63
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE1	3	5.67	0.14	5.62
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE2	3	5.67	0.14	5.62
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE3	3	5.67	0.14	5.62
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE1	3	5.63	0.23	5.53
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE2	3	5.63	0.23	5.53
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE3	3	5.63	0.23	5.53
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE1	3	5.32	0.48	5.14
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE2	3	5.32	0.48	5.14
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE3	3	5.32	0.48	5.14
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE1	3	5.02	0.18	5.05

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Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE2	3	5.02	0.18	5.05
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE3	3	5.02	0.18	5.05
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE1	3	4.44	0.24	4.31
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE2	3	4.44	0.24	4.31
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE3	3	4.44	0.24	4.31
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE1	3	4.4	0.19	4.41
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE2	3	4.4	0.19	4.41
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE3	3	4.4	0.19	4.41
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE1	3	4.24	0.34	4.37
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE2	3	4.24	0.34	4.37
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE3	3	4.24	0.34	4.37
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE1	3	4.09	0.28	3.9
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE2	3	4.09	0.28	3.9
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE3	3	4.09	0.28	3.9
(1,11)	2:14:B:THR:H	2:1:B:MET:HE1	3	3.95	0.48	4.23
(1,11)	2:14:B:THR:H	2:1:B:MET:HE2	3	3.95	0.48	4.23
(1,11)	2:14:B:THR:H	2:1:B:MET:HE3	3	3.95	0.48	4.23
(1,16)	2:20:B:SER:H	2:1:B:MET:HE1	3	3.93	0.13	3.97
(1,16)	2:20:B:SER:H	2:1:B:MET:HE2	3	3.93	0.13	3.97
(1,16)	2:20:B:SER:H	2:1:B:MET:HE3	3	3.93	0.13	3.97
(1,44)	2:57:B:SER:H	2:1:B:MET:HE1	3	3.84	0.14	3.9
(1,44)	2:57:B:SER:H	2:1:B:MET:HE2	3	3.84	0.14	3.9
(1,44)	2:57:B:SER:H	2:1:B:MET:HE3	3	3.84	0.14	3.9
(2,1)	2:12:B:THR:H	2:1:B:MET:HE1	3	3.75	1.02	3.23
(2,1)	2:12:B:THR:H	2:1:B:MET:HE2	3	3.75	1.02	3.23
(2,1)	2:12:B:THR:H	2:1:B:MET:HE3	3	3.75	1.02	3.23
(1,52)	2:65:B:SER:H	2:1:B:MET:HE1	3	3.49	0.48	3.69
(1,52)	2:65:B:SER:H	2:1:B:MET:HE2	3	3.49	0.48	3.69
(1,52)	2:65:B:SER:H	2:1:B:MET:HE3	3	3.49	0.48	3.69
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE1	3	3.23	0.51	3.1
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE2	3	3.23	0.51	3.1
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE3	3	3.23	0.51	3.1
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE1	3	3.14	0.45	3.43
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE2	3	3.14	0.45	3.43
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE3	3	3.14	0.45	3.43
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE1	3	2.98	0.61	2.64
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE2	3	2.98	0.61	2.64
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE3	3	2.98	0.61	2.64
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE1	3	2.75	0.33	2.59
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE2	3	2.75	0.33	2.59
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE3	3	2.75	0.33	2.59
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE1	3	2.55	0.29	2.45

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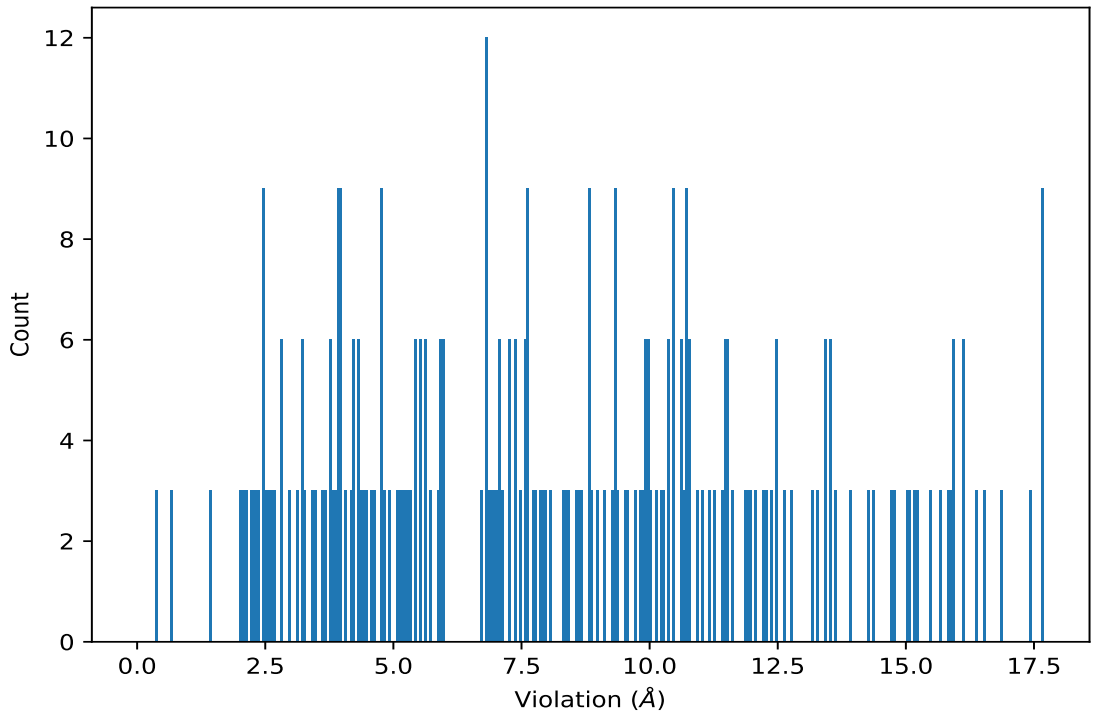
Key	Atom-1	Atom-2	Models[1]	Mean (Å)	SD[1] (Å)	Median (Å)
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE2	3	2.55	0.29	2.45
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE3	3	2.55	0.29	2.45
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE1	3	2.25	0.1	2.23
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE2	3	2.25	0.1	2.23
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE3	3	2.25	0.1	2.23
(1,53)	2:66:B:THR:H	2:1:B:MET:HE1	3	1.66	0.72	2.01
(1,53)	2:66:B:THR:H	2:1:B:MET:HE2	3	1.66	0.72	2.01
(1,53)	2:66:B:THR:H	2:1:B:MET:HE3	3	1.66	0.72	2.01
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE1	3	1.3	0.71	1.44
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE2	3	1.3	0.71	1.44
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE3	3	1.3	0.71	1.44

[1]Number of violated models, [2]Standard deviation

9.5 All violated distance restraints (i)

9.5.1 Histogram : Distribution of distance violations (i)

The following histogram shows the distribution of the absolute value of the violation for all violated restraints in the ensemble.



9.5.2 Table : All distance violations (i)

The following table lists the absolute value of the violation for each restraint in the ensemble sorted by its value. The Key (restraint list ID, restraint ID) is the unique identifier for a given restraint. Rows with same key represent combinatorial or ambiguous restraints and are counted as a single restraint.

Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE1	1	17.69
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE2	1	17.69
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE3	1	17.69
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE1	1	17.66
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE2	1	17.66
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE3	1	17.66
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE1	1	17.65
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE2	1	17.65
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE3	1	17.65
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE1	1	17.4
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE2	1	17.4
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE3	1	17.4
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE1	1	16.89
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE2	1	16.89
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE3	1	16.89
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE1	1	16.5
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE2	1	16.5
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE3	1	16.5
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE1	3	16.38
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE2	3	16.38
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE3	3	16.38
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE1	3	16.14
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE2	3	16.14
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE3	3	16.14
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE1	3	16.12
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE2	3	16.12
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE3	3	16.12
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE1	3	15.94
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE2	3	15.94
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE3	3	15.94
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE1	2	15.91
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE2	2	15.91
(1,7)	2:8:B:LEU:H	2:1:B:MET:HE3	2	15.91
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE1	1	15.86
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE2	1	15.86
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE3	1	15.86
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE1	2	15.8

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE2	2	15.8
(1,32)	2:40:B:GLN:H	2:1:B:MET:HE3	2	15.8
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE1	1	15.67
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE2	1	15.67
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE3	1	15.67
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE1	2	15.49
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE2	2	15.49
(1,30)	2:36:B:ILE:H	2:1:B:MET:HE3	2	15.49
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE1	3	15.22
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE2	3	15.22
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE3	3	15.22
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE1	3	15.18
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE2	3	15.18
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE3	3	15.18
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE1	2	15.05
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE2	2	15.05
(1,8)	2:10:B:GLY:H	2:1:B:MET:HE3	2	15.05
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE1	2	15.03
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE2	2	15.03
(1,31)	2:39:B:ASP:H	2:1:B:MET:HE3	2	15.03
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE1	1	14.78
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE2	1	14.78
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE3	1	14.78
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE1	2	14.71
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE2	2	14.71
(1,29)	2:35:B:GLY:H	2:1:B:MET:HE3	2	14.71
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE1	3	14.35
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE2	3	14.35
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE3	3	14.35
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE1	3	14.27
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE2	3	14.27
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE3	3	14.27
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE1	1	13.94
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE2	1	13.94
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE3	1	13.94
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE1	2	13.61
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE2	2	13.61
(1,33)	2:41:B:GLN:H	2:1:B:MET:HE3	2	13.61
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE1	1	13.53
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE2	1	13.53
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE3	1	13.53
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE1	2	13.53

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE2	2	13.53
(1,28)	2:34:B:GLU:H	2:1:B:MET:HE3	2	13.53
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE1	3	13.44
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE2	3	13.44
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE3	3	13.44
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE1	1	13.42
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE2	1	13.42
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE3	1	13.42
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE1	1	13.29
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE2	1	13.29
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE3	1	13.29
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE1	2	13.15
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE2	2	13.15
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE3	2	13.15
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE1	1	12.78
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE2	1	12.78
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE3	1	12.78
(1,6)	2:7:B:THR:H	2:1:B:MET:HE1	1	12.61
(1,6)	2:7:B:THR:H	2:1:B:MET:HE2	1	12.61
(1,6)	2:7:B:THR:H	2:1:B:MET:HE3	1	12.61
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE1	1	12.47
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE2	1	12.47
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE3	1	12.47
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE1	3	12.46
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE2	3	12.46
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE3	3	12.46
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE1	1	12.35
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE2	1	12.35
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE3	1	12.35
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE1	2	12.29
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE2	2	12.29
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE3	2	12.29
(1,6)	2:7:B:THR:H	2:1:B:MET:HE1	3	12.2
(1,6)	2:7:B:THR:H	2:1:B:MET:HE2	3	12.2
(1,6)	2:7:B:THR:H	2:1:B:MET:HE3	3	12.2
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE1	2	12.05
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE2	2	12.05
(1,26)	2:32:B:ASP:H	2:1:B:MET:HE3	2	12.05
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE1	2	11.96
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE2	2	11.96
(1,27)	2:33:B:LYS:H	2:1:B:MET:HE3	2	11.96
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE1	1	11.93

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE2	1	11.93
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE3	1	11.93
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE1	3	11.89
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE2	3	11.89
(1,34)	2:42:B:ARG:H	2:1:B:MET:HE3	3	11.89
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE1	1	11.63
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE2	1	11.63
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE3	1	11.63
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE1	3	11.53
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE2	3	11.53
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE3	3	11.53
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE1	1	11.52
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE2	1	11.52
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE3	1	11.52
(1,6)	2:7:B:THR:H	2:1:B:MET:HE1	2	11.48
(1,6)	2:7:B:THR:H	2:1:B:MET:HE2	2	11.48
(1,6)	2:7:B:THR:H	2:1:B:MET:HE3	2	11.48
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE1	2	11.45
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE2	2	11.45
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE3	2	11.45
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE1	3	11.41
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE2	3	11.41
(1,57)	2:70:B:VAL:H	2:1:B:MET:HE3	3	11.41
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE1	1	11.28
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE2	1	11.28
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE3	1	11.28
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE1	3	11.15
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE2	3	11.15
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE3	3	11.15
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE1	2	11.01
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE2	2	11.01
(1,58)	2:71:B:LEU:H	2:1:B:MET:HE3	2	11.01
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE1	1	10.94
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE2	1	10.94
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE3	1	10.94
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE1	3	10.78
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE2	3	10.78
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE3	3	10.78
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE1	3	10.75
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE2	3	10.75
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE3	3	10.75
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE1	1	10.74

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE2	1	10.74
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE3	1	10.74
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE1	2	10.72
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE2	2	10.72
(1,23)	2:28:B:ALA:H	2:1:B:MET:HE3	2	10.72
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE1	1	10.72
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE2	1	10.72
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE3	1	10.72
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE1	1	10.68
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE2	1	10.68
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE3	1	10.68
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE1	2	10.62
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE2	2	10.62
(1,40)	2:51:B:GLU:H	2:1:B:MET:HE3	2	10.62
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE1	3	10.62
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE2	3	10.62
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE3	3	10.62
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE1	3	10.47
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE2	3	10.47
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE3	3	10.47
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE1	3	10.47
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE2	3	10.47
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE3	3	10.47
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE1	2	10.45
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE2	2	10.45
(1,56)	2:69:B:LEU:H	2:1:B:MET:HE3	2	10.45
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE1	1	10.38
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE2	1	10.38
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE3	1	10.38
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE1	2	10.35
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE2	2	10.35
(1,25)	2:30:B:ILE:H	2:1:B:MET:HE3	2	10.35
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE1	1	10.27
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE2	1	10.27
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE3	1	10.27
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE1	3	10.22
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE2	3	10.22
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE3	3	10.22
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE1	2	10.12
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE2	2	10.12
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE3	2	10.12
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE1	2	10.01

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE2	2	10.01
(1,9)	2:11:B:LYS:H	2:1:B:MET:HE3	2	10.01
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE1	2	9.95
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE2	2	9.95
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE3	2	9.95
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE1	2	9.95
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE2	2	9.95
(1,36)	2:44:B:ILE:H	2:1:B:MET:HE3	2	9.95
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE1	1	9.91
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE2	1	9.91
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE3	1	9.91
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE1	3	9.9
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE2	3	9.9
(1,35)	2:43:B:LEU:H	2:1:B:MET:HE3	3	9.9
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE1	1	9.86
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE2	1	9.86
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE3	1	9.86
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE1	3	9.83
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE2	3	9.83
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE3	3	9.83
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE1	2	9.74
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE2	2	9.74
(1,24)	2:29:B:LYS:H	2:1:B:MET:HE3	2	9.74
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE1	3	9.56
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE2	3	9.56
(1,39)	2:50:B:LEU:H	2:1:B:MET:HE3	3	9.56
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE1	3	9.54
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE2	3	9.54
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE3	3	9.54
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE1	2	9.35
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE2	2	9.35
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE3	2	9.35
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE1	2	9.34
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE2	2	9.34
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE3	2	9.34
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE1	2	9.34
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE2	2	9.34
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE3	2	9.34
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE1	1	9.32
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE2	1	9.32
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE3	1	9.32
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE1	3	9.29

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE2	3	9.29
(1,22)	2:27:B:LYS:H	2:1:B:MET:HE3	3	9.29
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE1	3	9.12
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE2	3	9.12
(1,41)	2:54:B:ARG:H	2:1:B:MET:HE3	3	9.12
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE1	3	8.99
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE2	3	8.99
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE3	3	8.99
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE1	2	8.89
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE2	2	8.89
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE3	2	8.89
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE1	2	8.82
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE2	2	8.82
(1,10)	2:13:B:ILE:H	2:1:B:MET:HE3	2	8.82
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE1	3	8.81
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE2	3	8.81
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE3	3	8.81
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE1	1	8.8
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE2	1	8.8
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE3	1	8.8
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE1	1	8.66
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE2	1	8.66
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE3	1	8.66
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE1	3	8.61
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE2	3	8.61
(1,20)	2:25:B:ASN:H	2:1:B:MET:HE3	3	8.61
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE1	3	8.57
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE2	3	8.57
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE3	3	8.57
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE1	1	8.42
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE2	1	8.42
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE3	1	8.42
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE1	1	8.37
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE2	1	8.37
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE3	1	8.37
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE1	2	8.34
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE2	2	8.34
(1,5)	2:6:B:LYS:H	2:1:B:MET:HE3	2	8.34
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE1	2	8.05
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE2	2	8.05
(1,4)	2:5:B:VAL:H	2:1:B:MET:HE3	2	8.05
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE1	2	7.96

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE2	2	7.96
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE3	2	7.96
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE1	1	7.92
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE2	1	7.92
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE3	1	7.92
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE1	3	7.88
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE2	3	7.88
(1,21)	2:26:B:VAL:H	2:1:B:MET:HE3	3	7.88
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE1	2	7.76
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE2	2	7.76
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE3	2	7.76
(1,18)	2:22:B:THR:H	2:1:B:MET:HE1	1	7.72
(1,18)	2:22:B:THR:H	2:1:B:MET:HE2	1	7.72
(1,18)	2:22:B:THR:H	2:1:B:MET:HE3	1	7.72
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE1	3	7.64
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE2	3	7.64
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE3	3	7.64
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE1	2	7.62
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE2	2	7.62
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE3	2	7.62
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE1	3	7.6
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE2	3	7.6
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE3	3	7.6
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE1	3	7.58
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE2	3	7.58
(1,37)	2:45:B:PHE:H	2:1:B:MET:HE3	3	7.58
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE1	2	7.56
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE2	2	7.56
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE3	2	7.56
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE1	3	7.45
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE2	3	7.45
(1,19)	2:23:B:ILE:H	2:1:B:MET:HE3	3	7.45
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE1	1	7.38
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE2	1	7.38
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE3	1	7.38
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE1	2	7.38
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE2	2	7.38
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE3	2	7.38
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE1	1	7.28
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE2	1	7.28
(2,2)	2:46:B:ALA:H	2:1:B:MET:HE3	1	7.28
(1,42)	2:55:B:THR:H	2:1:B:MET:HE1	1	7.26

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,42)	2:55:B:THR:H	2:1:B:MET:HE2	1	7.26
(1,42)	2:55:B:THR:H	2:1:B:MET:HE3	1	7.26
(1,18)	2:22:B:THR:H	2:1:B:MET:HE1	3	7.1
(1,18)	2:22:B:THR:H	2:1:B:MET:HE2	3	7.1
(1,18)	2:22:B:THR:H	2:1:B:MET:HE3	3	7.1
(1,42)	2:55:B:THR:H	2:1:B:MET:HE1	3	7.08
(1,42)	2:55:B:THR:H	2:1:B:MET:HE2	3	7.08
(1,42)	2:55:B:THR:H	2:1:B:MET:HE3	3	7.08
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE1	2	7.05
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE2	2	7.05
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE3	2	7.05
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE1	1	7.0
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE2	1	7.0
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE3	1	7.0
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE1	3	6.98
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE2	3	6.98
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE3	3	6.98
(1,42)	2:55:B:THR:H	2:1:B:MET:HE1	2	6.94
(1,42)	2:55:B:THR:H	2:1:B:MET:HE2	2	6.94
(1,42)	2:55:B:THR:H	2:1:B:MET:HE3	2	6.94
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE1	3	6.87
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE2	3	6.87
(1,38)	2:48:B:LYS:H	2:1:B:MET:HE3	3	6.87
(1,18)	2:22:B:THR:H	2:1:B:MET:HE1	2	6.84
(1,18)	2:22:B:THR:H	2:1:B:MET:HE2	2	6.84
(1,18)	2:22:B:THR:H	2:1:B:MET:HE3	2	6.84
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE1	2	6.83
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE2	2	6.83
(1,12)	2:15:B:LEU:H	2:1:B:MET:HE3	2	6.83
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE1	2	6.82
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE2	2	6.82
(1,55)	2:68:B:HIS:H	2:1:B:MET:HE3	2	6.82
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE1	1	6.81
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE2	1	6.81
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE3	1	6.81
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE1	1	6.71
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE2	1	6.71
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE3	1	6.71
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE1	1	5.98
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE2	1	5.98
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE3	1	5.98
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE1	1	5.95

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE2	1	5.95
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE3	1	5.95
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE1	3	5.94
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE2	3	5.94
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE3	3	5.94
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE1	3	5.93
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE2	3	5.93
(2,6)	2:74:B:ARG:H	2:1:B:MET:HE3	3	5.93
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE1	1	5.86
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE2	1	5.86
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE3	1	5.86
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE1	3	5.74
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE2	3	5.74
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE3	3	5.74
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE1	3	5.63
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE2	3	5.63
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE3	3	5.63
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE1	2	5.62
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE2	2	5.62
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE3	2	5.62
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE1	3	5.54
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE2	3	5.54
(1,46)	2:59:B:TYR:H	2:1:B:MET:HE3	3	5.54
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE1	3	5.53
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE2	3	5.53
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE3	3	5.53
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE1	2	5.41
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE2	2	5.41
(1,45)	2:58:B:ASP:H	2:1:B:MET:HE3	2	5.41
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE1	2	5.41
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE2	2	5.41
(1,3)	2:4:B:PHE:H	2:1:B:MET:HE3	2	5.41
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE1	1	5.3
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE2	1	5.3
(2,3)	2:47:B:GLY:H	2:1:B:MET:HE3	1	5.3
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE1	2	5.29
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE2	2	5.29
(1,13)	2:16:B:GLU:H	2:1:B:MET:HE3	2	5.29
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE1	1	5.22
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE2	1	5.22
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE3	1	5.22
(2,1)	2:12:B:THR:H	2:1:B:MET:HE1	1	5.18

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,1)	2:12:B:THR:H	2:1:B:MET:HE2	1	5.18
(2,1)	2:12:B:THR:H	2:1:B:MET:HE3	1	5.18
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE1	3	5.14
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE2	3	5.14
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE3	3	5.14
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE1	2	5.05
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE2	2	5.05
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE3	2	5.05
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE1	1	4.9
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE2	1	4.9
(2,7)	2:76:B:GLY:H	2:1:B:MET:HE3	1	4.9
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE1	2	4.84
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE2	2	4.84
(1,2)	2:3:B:ILE:H	2:1:B:MET:HE3	2	4.84
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE1	3	4.79
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE2	3	4.79
(2,5)	2:73:B:LEU:H	2:1:B:MET:HE3	3	4.79
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE1	2	4.78
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE2	2	4.78
(1,54)	2:67:B:LEU:H	2:1:B:MET:HE3	2	4.78
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE1	1	4.78
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE2	1	4.78
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE3	1	4.78
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE1	1	4.63
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE2	1	4.63
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE3	1	4.63
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE1	1	4.58
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE2	1	4.58
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE3	1	4.58
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE1	1	4.49
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE2	1	4.49
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE3	1	4.49
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE1	3	4.41
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE2	3	4.41
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE3	3	4.41
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE1	3	4.37
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE2	3	4.37
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE3	3	4.37
(1,11)	2:14:B:THR:H	2:1:B:MET:HE1	1	4.34
(1,11)	2:14:B:THR:H	2:1:B:MET:HE2	1	4.34
(1,11)	2:14:B:THR:H	2:1:B:MET:HE3	1	4.34
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE1	3	4.31

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE2	3	4.31
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE3	3	4.31
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE1	2	4.23
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE2	2	4.23
(1,43)	2:56:B:LEU:H	2:1:B:MET:HE3	2	4.23
(1,11)	2:14:B:THR:H	2:1:B:MET:HE1	3	4.23
(1,11)	2:14:B:THR:H	2:1:B:MET:HE2	3	4.23
(1,11)	2:14:B:THR:H	2:1:B:MET:HE3	3	4.23
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE1	2	4.17
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE2	2	4.17
(1,47)	2:60:B:ASN:H	2:1:B:MET:HE3	2	4.17
(1,16)	2:20:B:SER:H	2:1:B:MET:HE1	3	4.06
(1,16)	2:20:B:SER:H	2:1:B:MET:HE2	3	4.06
(1,16)	2:20:B:SER:H	2:1:B:MET:HE3	3	4.06
(1,44)	2:57:B:SER:H	2:1:B:MET:HE1	3	3.97
(1,44)	2:57:B:SER:H	2:1:B:MET:HE2	3	3.97
(1,44)	2:57:B:SER:H	2:1:B:MET:HE3	3	3.97
(1,16)	2:20:B:SER:H	2:1:B:MET:HE1	1	3.97
(1,16)	2:20:B:SER:H	2:1:B:MET:HE2	1	3.97
(1,16)	2:20:B:SER:H	2:1:B:MET:HE3	1	3.97
(1,52)	2:65:B:SER:H	2:1:B:MET:HE1	1	3.95
(1,52)	2:65:B:SER:H	2:1:B:MET:HE2	1	3.95
(1,52)	2:65:B:SER:H	2:1:B:MET:HE3	1	3.95
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE1	1	3.91
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE2	1	3.91
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE3	1	3.91
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE1	3	3.9
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE2	3	3.9
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE3	3	3.9
(1,44)	2:57:B:SER:H	2:1:B:MET:HE1	1	3.9
(1,44)	2:57:B:SER:H	2:1:B:MET:HE2	1	3.9
(1,44)	2:57:B:SER:H	2:1:B:MET:HE3	1	3.9
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE1	2	3.89
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE2	2	3.89
(1,48)	2:61:B:ILE:H	2:1:B:MET:HE3	2	3.89
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE1	1	3.84
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE2	1	3.84
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE3	1	3.84
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE1	2	3.78
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE2	2	3.78
(1,17)	2:21:B:ASP:H	2:1:B:MET:HE3	2	3.78
(1,16)	2:20:B:SER:H	2:1:B:MET:HE1	2	3.75

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,16)	2:20:B:SER:H	2:1:B:MET:HE2	2	3.75
(1,16)	2:20:B:SER:H	2:1:B:MET:HE3	2	3.75
(1,52)	2:65:B:SER:H	2:1:B:MET:HE1	3	3.69
(1,52)	2:65:B:SER:H	2:1:B:MET:HE2	3	3.69
(1,52)	2:65:B:SER:H	2:1:B:MET:HE3	3	3.69
(1,44)	2:57:B:SER:H	2:1:B:MET:HE1	2	3.64
(1,44)	2:57:B:SER:H	2:1:B:MET:HE2	2	3.64
(1,44)	2:57:B:SER:H	2:1:B:MET:HE3	2	3.64
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE1	3	3.49
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE2	3	3.49
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE3	3	3.49
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE1	1	3.43
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE2	1	3.43
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE3	1	3.43
(1,11)	2:14:B:THR:H	2:1:B:MET:HE1	2	3.28
(1,11)	2:14:B:THR:H	2:1:B:MET:HE2	2	3.28
(1,11)	2:14:B:THR:H	2:1:B:MET:HE3	2	3.28
(2,1)	2:12:B:THR:H	2:1:B:MET:HE1	3	3.23
(2,1)	2:12:B:THR:H	2:1:B:MET:HE2	3	3.23
(2,1)	2:12:B:THR:H	2:1:B:MET:HE3	3	3.23
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE1	1	3.21
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE2	1	3.21
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE3	1	3.21
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE1	2	3.1
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE2	2	3.1
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE3	2	3.1
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE1	3	2.95
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE2	3	2.95
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE3	3	2.95
(2,1)	2:12:B:THR:H	2:1:B:MET:HE1	2	2.84
(2,1)	2:12:B:THR:H	2:1:B:MET:HE2	2	2.84
(2,1)	2:12:B:THR:H	2:1:B:MET:HE3	2	2.84
(1,52)	2:65:B:SER:H	2:1:B:MET:HE1	2	2.82
(1,52)	2:65:B:SER:H	2:1:B:MET:HE2	2	2.82
(1,52)	2:65:B:SER:H	2:1:B:MET:HE3	2	2.82
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE1	3	2.69
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE2	3	2.69
(1,15)	2:18:B:GLU:H	2:1:B:MET:HE3	3	2.69
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE1	2	2.64
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE2	2	2.64
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE3	2	2.64
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE1	2	2.59

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE2	2	2.59
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE3	2	2.59
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE1	2	2.51
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE2	2	2.51
(1,51)	2:64:B:GLU:H	2:1:B:MET:HE3	2	2.51
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE1	3	2.47
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE2	3	2.47
(1,14)	2:17:B:VAL:H	2:1:B:MET:HE3	3	2.47
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE1	3	2.46
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE2	3	2.46
(2,4)	2:49:B:GLN:H	2:1:B:MET:HE3	3	2.46
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE1	2	2.45
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE2	2	2.45
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE3	2	2.45
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE1	3	2.38
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE2	3	2.38
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE3	3	2.38
(1,53)	2:66:B:THR:H	2:1:B:MET:HE1	1	2.31
(1,53)	2:66:B:THR:H	2:1:B:MET:HE2	1	2.31
(1,53)	2:66:B:THR:H	2:1:B:MET:HE3	1	2.31
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE1	1	2.25
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE2	1	2.25
(1,1)	2:2:B:GLN:H	2:1:B:MET:HE3	1	2.25
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE1	2	2.23
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE2	2	2.23
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE3	2	2.23
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE1	1	2.14
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE2	1	2.14
(1,49)	2:62:B:GLN:H	2:1:B:MET:HE3	1	2.14
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE1	3	2.09
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE2	3	2.09
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE3	3	2.09
(1,53)	2:66:B:THR:H	2:1:B:MET:HE1	3	2.01
(1,53)	2:66:B:THR:H	2:1:B:MET:HE2	3	2.01
(1,53)	2:66:B:THR:H	2:1:B:MET:HE3	3	2.01
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE1	2	1.44
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE2	2	1.44
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE3	2	1.44
(1,53)	2:66:B:THR:H	2:1:B:MET:HE1	2	0.66
(1,53)	2:66:B:THR:H	2:1:B:MET:HE2	2	0.66
(1,53)	2:66:B:THR:H	2:1:B:MET:HE3	2	0.66
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE1	1	0.36

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Key	Atom-1	Atom-2	Model ID	Violation (Å)
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE2	1	0.36
(1,50)	2:63:B:LYS:H	2:1:B:MET:HE3	1	0.36

10 Dihedral-angle violation analysis (i)

No dihedral-angle restraints found